

FLIGHT

and
THE AIRCRAFT
ENGINEER.

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

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EDITORIAL COMMENT

FOLLOWING on the appointment of General Seely as Under-Secretary of State for the Air, the whole of the Air Council has come in for drastic re-organisation, as detailed in last week's issue of FLIGHT. General Trenchard, having completed his work in command of the Independent Air Force in France, returns to the Ministry to be Chief of the Air Staff. As we recorded last week General Sykes is to control civil aviation as a civilian official, while General Ellington receives the appointment of Director-General of Aircraft Production and Research. On the non-military side Sir John Hunter is Administrator of Works and Buildings, pending the settlement of war building contracts; Sir James Stevenson, Surveyor-General of Supply on the Army Council, is to be an additional member of the Air Council for general business purposes, without control of any special department of the Air Ministry. As he retains his seat on the Army Council the appointment of Sir J. Stevenson serves to accentuate the close relationship between the War Office and the Air Ministry which has given rise to so much justifiable criticism. Then Brig.-General Alexander is appointed

an additional member of the Air Council representing the Ministry of Munitions. Sir Godfrey Paine is to be Inspector-General without a seat on the Council, Brig.-General Groves becomes Deputy Chief of the Air Staff, and Rear Admiral Lambert Director of Personnel.

It is to be hoped that this reshuffling of the cards will be productive of good effects. There is plenty of room for it, if only a part of the stories which are current as to dissatisfaction within the R.A.F. are accepted as approximately true. What seems to be badly wanted on the Air Council is someone who has a mind and can make it up. Up to the present things have been allowed to drift, with the consequence that there seems to be a grave danger of the R.A.F. losing the very men whom it is desirable to retain in the interests of the country and the Force simply because authority cannot decide upon what terms of service are to be offered. Added to this it is notorious that the Air Ministry has been the shelter of hordes of inefficients, who toil not neither do they spin, but who are nevertheless keen enough on drawing all the emoluments of office. As a matter of fact it is useless to mince matters—things have been in a pretty bad way as a consequence of indecision and slackness at headquarters and the sooner the whole problem is tackled with determination the better. We believe that since General Trenchard assumed duty as Chief of Staff he has put the cat among the pigeons to some purpose and that the process of clearing out the "duds" has been proceeding apace. Admiral Lambert, too, has the name of being a veritable terror to the inefficients, so it really begins to look as though things were moving in the right direction at last.

The Reconstituted Air Ministry

The Principle of Dual Control

Quite an interesting statement was drawn from Mr. Churchill last week by an amendment to the Address moved by Capt. Wedgwood Benn, in which the House was asked to express regret that no assurance was given in the King's Speech that the merging of the Air Ministry and the War Office under one head is but a temporary measure of convenience, inasmuch as to disintegrate the Air Service or subordinate it to other fighting services is detrimental to the Empire's aerial development. Mr. Churchill explained in reply that the decision to couple the two offices of war and the air was the Prime Minister's. The latter had first in his mind

the wish not to multiply unduly the offices of the Government. Although the Air Service was an arm which would acquire increasing importance as the years went on, there was no doubt that after demobilisation had been completed the size of the Air Service compared to either Army or Navy would be very much smaller. It was not considered by the Prime Minister that at the present period in aviation development a separate Secretaryship of State was required for the administration of the Air Service. In the second place we were confronted with the great problem of demobilisation, which affected the Army and the Air Service in similar ways—ways different from those by which the Navy was affected. The Navy had only been expanded $2\frac{1}{2}$ times. The Air Service had sprung into existence during the War, and the Army had been multiplied by tens. The immense shrinkages in the Air Service and the Army involved decisions in regard to pay, conditions and regulations governing the transition of men from military to civil life which could be far better taken in regard to these two kindred Services if they were taken from a common point of view, and if the two departments could be made to march in step, so that the policy of the one should not be overthrown by separate or independent action on the part of the other. When demobilisation was completed, they would have to redistribute the garrisons of the British Army in the light of lessons which had been learnt during the War. That redistribution could be better carried out by harmonious interweaving of the Air and Military Forces by linking them together in step than as though they were rivals. There was not the slightest intention of merging the Air Force in the Army. On the contrary, its integrity, unity and independence would be assiduously maintained.

While we fully appreciate the cogency of the arguments concerning demobilisation, we are still not completely satisfied as to the outlook for the future. Undoubtedly, there is wisdom, as Mr. Churchill indicates, in viewing the problems of demobilisation from a common point of view, with the object of avoiding complications arising from the adoption of two different standpoints. But we confess we are disquieted by the statement that in the opinion of the Prime Minister—in which we take it for granted the War Cabinet concurs—"at the present period in aviation development a separate Secretaryship of State is not required for the administration of the Air Service." In the expression of this opinion Mr. Lloyd George sets himself above the collective wisdom of Parliament, which has, by the Air Force Act, expressly said that a separate Secretaryship of State is essential and has accordingly constituted it. It seems to us that by presuming thus to reverse the opinion of Parliament and to wipe out the office referred to, the Prime Minister has set himself above the law and assumed the powers of dictatorship. Surely, the proper procedure—certainly the most courteous—was to have taken the opinion of Parliament itself in the debate on the next Air Forces Estimates.

Apart from any question of the sort, it would be interesting to know how his opinion was arrived at. To our way of thinking, the argument is very closely akin to the sort of thing with which we became all too familiar during the time Lord Haldane was at the War Office, when aviation was made the butt of official ridicule, and, later, we found ourselves

plunged into war without more than the barest nucleus of a flying service. One would have thought that one of the principal lessons taught by the War was that want of prescience and preparation had been one of our besetting official sins. Yet we find no less a person than the Prime Minister himself proclaiming, as with a smirk, that in its "present period of development" aviation does not, apparently, amount to the proverbial row of beans! At any rate, it is so insignificant that it can be lumped together with another department of State and be looked after by an Under-Secretary. Truly, as a nation we are inclined to learn nothing and forget nothing!

• • •

The Control of Civil Aviation

As we have recorded in a previous paragraph, General Sykes has been appointed to the Air Ministry to take charge of the control of civil aviation, and is to rank as a civilian official. Mr. Churchill referred at some length to this appointment. While, he said, he recognised, the services that aircraft manufacturers had rendered, there could be no doubt that a Service man of distinction was to be preferred for this position, and General Sykes would devote his great abilities to developing to the utmost, so far as lay within the province of the Government, the progress of civil and commercial aviation.

We have no fault whatever to find with General Sykes' appointment. On the contrary, we believe it is an altogether good one, and will result in benefit to the future of civil and commercial aviation, but it was surely a little ungracious to have doubted the capacity of anyone outside the Service to successfully fill the post. Doubtless, Mr. Churchill had not it in his mind for the moment that the greatest Air Minister we have had—Lord Weir—was one of the very manufacturers who have rendered great service to the State, but are nevertheless not to be trusted to run straight in a permanent official position in control of civil aviation. It is perhaps of no great moment, but it certainly is an excellent indication of the way the official mind regards the mere civilian.

It was, Mr. Churchill continued, proposed to introduce immediately a Bill to enable the Government to get private flying started, at first under regulations which at a later date could be greatly relaxed. As a matter of fact, the text of this Bill has since been issued. It provides for the granting, suspension and revocation of pilots' licences; registration, identification, inspection and certification of aircraft and aerodromes; the control of conditions under which aircraft may be used for carrying goods, mails and passengers, both for inland flying and for crossing to and from a foreign country; and the provision of penalties for contravention of regulations made under the Act. The latter is to remain in force until January 1, 1920. It is too early yet to pass judgment on the Bill, which is really more a measure designed to vest in the Air Ministry powers to deal with the matters mentioned in the text rather than a "governing" Act. Moreover, there is nothing so far as can be seen to which serious objection can be taken at the moment. Everything depends upon the many ways in which the resultant act is interpreted, and the regulations administered. It is clearly necessary that, before civilian flying can be resumed, an Act of some sort will have to be passed, since the stop-gap Aerial Navigation Act is

Flight—And the Men



"Flight" Copyright.

Brigadier-General J. G. HEARSON, C.B., D.S.O., Director of Training since the formation of the R.A.F.

quite inadequate to meet the new situation which development during the war has created.

One thing which will require specially careful watching is the matter of the methods to be adopted of licensing pilots. This is a subject we have discussed, *pro* and *con*, on previous occasions, so there is no need to enter upon the details again. We still hold, however, that the machinery existing through the association of the R.Ae.C. with the International Federation is amply sufficient to meet all the requirements of purely civilian flying, leaving the Air Ministry to the work of dealing with service and public service pilots. Further than this, we think that comment can usefully be withheld until we hear what General Seely has to say when he brings the Bill before the House for discussion.

New Ranks for the R.A.F.

There is one other reference in Mr. Churchill's statement that we regard with considerable satisfaction. Referring to the decision to keep the Air Service absolutely distinct and separate from the Army and Navy, he said that in order to emphasise the distinction between the Services it had been recommended that the titles and ranks of the officers should be different from those employed by the other Services. General Trenchard, he was glad to say, was confident that a good scheme of perfectly distinctive titles could be devised, and so far from the R.A.F. being merged in the War Office, he had taken notable steps to emphasise its own independent characteristics.

This is a matter upon which, as our readers will recollect, we have always expressed the strongest opinions. That we were alone in their expression does not make the decision of the Air Council any less palatable to ourselves, inasmuch as we think we are justified in the claim that if outside argument has had any influence with the inner councils of the Air Ministry, that argument has been brought to bear by FLIGHT alone. From the day it was announced that the R.A.F. was to adopt Army ranks and titles we have felt most strongly that it must be detrimental to the *esprit de corps* of the force for its personnel to be known by titles adopted from another service. We pleaded for the retention of the old titles of Wing, Squadron and Flight Commander, which, even if they did slightly savour of adoption from the Navy, at least had the merit of being distinctive and peculiar to the Flying Service. Nor do we think now that these can very well be improved upon. It has reached us that the new titles have already been decided upon and, un-

fortunately, some of them seem to have been taken from comic opera. The attempt to reconcile titles with the actual branch of the Service in which officers are employed has, we hear, been productive of some really funny effects, and we would most strongly recommend to the powers that be to reconsider certain of them before they are officially made known. The problem is, after all, not so very difficult. Supposing the old titles to be restored, the question has been put to us of how to differentiate between the various branches. It seems easy enough, if one is not hide-bound by tradition and if it be not too rigidly insisted upon that a Squadron Commander, for example, must of necessity be in command of a squadron. Any difficulty there may be can be overcome in Naval fashion by simply attaching a letter to the title to identify the branch. For instance, a major of the Administrative Branch becomes a Squadron Commander (A). If he were of the Technical or Meteorological Branch he would be simply (T) or (M) as the case might be. It would be far better than calling the meteorological officer "Isobar Jones." And, be it said, from what we have heard the illustration we have taken is not so very far-fetched.

The Atlantic Flight

What is the Air Ministry doing in the matter of encouraging the Atlantic flight from the British point of view? Is it true that, while the Americans are apparently being afforded every encouragement and assistance, our own people are "turned down" by the authorities? We are told that the Americans have arranged for a convoy of surface craft, 60 miles apart, right across the route, thus making success almost a matter of certainty. Such an arrangement does away with all navigational difficulties, since by the employment of the simple device of smoke-screens the route can be marked out as clearly as a line drawn across the chart. It enormously simplifies the matter of supplies, because the conditions expressly allow a competing machine to alight on the water and pick up fuel and other supplies. In a word barring engine failure or a vital breakage of the machine itself, such a scheme as that outlined makes the flight a matter of almost mathematical certainty.

In the meantime, we are wondering if it is true, as we are assured it is, that so little encouragement has been forthcoming from our own authorities that certain would-be competitors who had signified their intention to attempt the flight have had to abandon the idea. Perhaps someone who really knows the exact position will enlighten us?

Air Ministry Appointments

SIR JAMES MASTERTON SMITH, K.C.B., has been appointed Assistant Secretary (additional) of the War Office and of the Air Ministry.

SIR JAMES STEVENSON, Surveyor-General of Supply on the Army Council, and member of the Air Council for general business purposes, has appointed as his private secretary Mr. F. G. L. Bertram, H.M.I. of the Board of Education.

Parliamentary Air Committee

MR. JOYNSON-HICKS, M.P., on February 11 entertained at dinner at 15, St. James's Place, Lord Sydenham, Lord Strachie, and the following members of the House of Commons:—Lord Hugh Cecil, Sir Henry Norman, Sir Fortescue Flannery, Sir Henry Cowan, Sir A. Shirley Benn, Capt. Wedgwood Benn, D.S.O., Col. A. Burgoyne, Col. Moore Brabazon, Capt. Raper, and Mr. H. W. Chilcot, all of whom have an interest in the future of the Air Service.

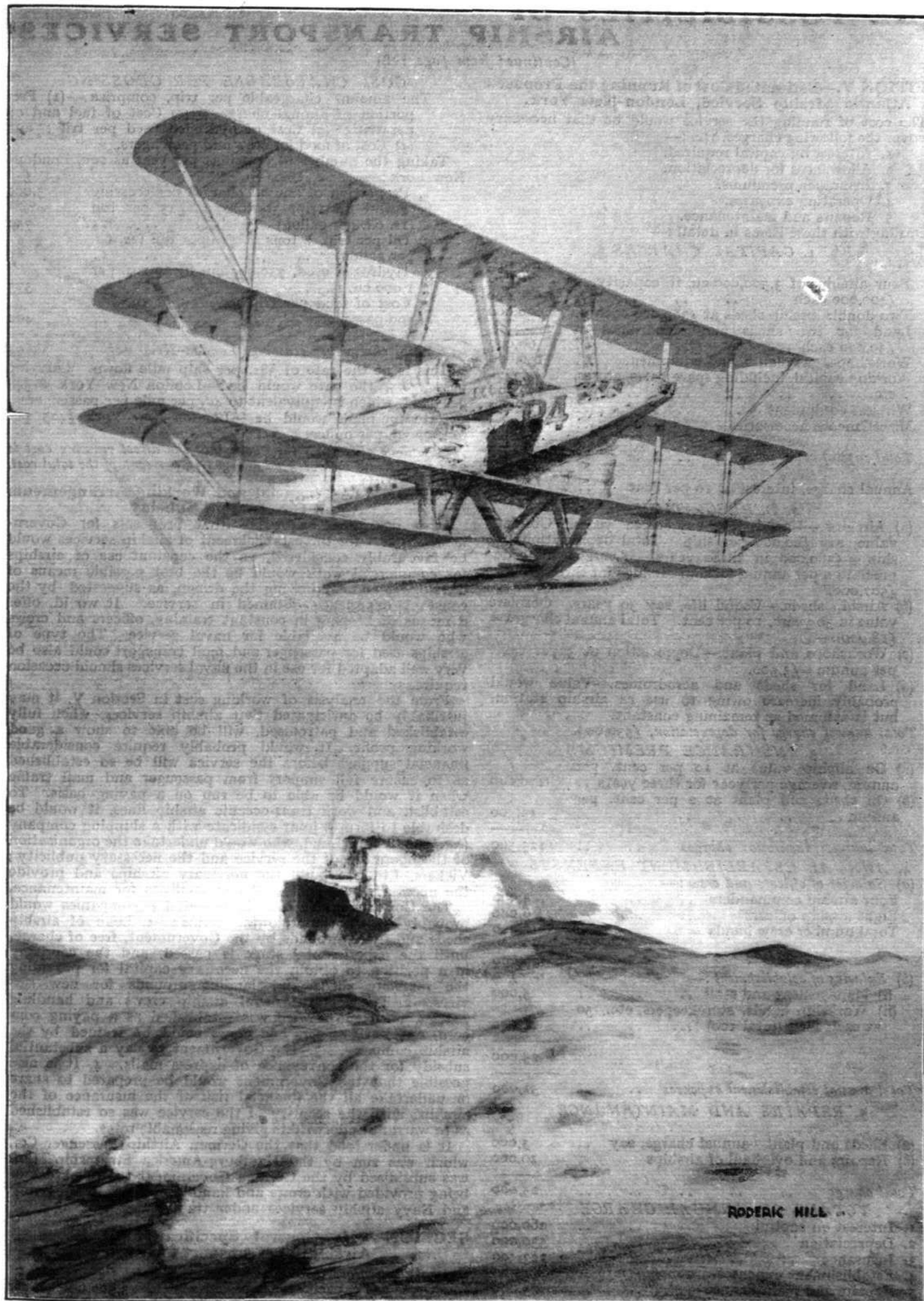
A Record Airship Cruise.

At 6.50 p.m. on February 13 the British non-rigid airship N.S. 11 landed at the Longmoor naval air station, 25 miles north of Aberdeen, after being in the air for four days 4 hours 50 mins., the ascent having been made on February 9 at 2 p.m. The airship had cruised between Aberdeen and the Moray Firth, and it is estimated that the distance covered was between 2,000 and 2,500 miles. She carried a complement of two officers and eight men, and could have kept up longer had she carried more petrol and water.

An Italian Speed Record

A MESSAGE from Milan on February 7 states that Sergeant Elia Lint on a Marchetti biplane fitted with a 200 h.p. S.P.A. motor set up a new speed record by covering a kilometre at a speed of 260.890 kils. per hour.

The flight was made at the Coltano aerodrome near Pisa and was timed by the official timekeeper of the Aero Club of Italy.



"A FORECAST"

(From an original drawing by Roderic Hill.)

THE POSSIBILITIES OF AIRSHIP TRANSPORT SERVICES*

(Continued from page 108)

SECTION V.—Estimated Cost of Running the Proposed Atlantic Airship Service, London-New York.

The cost of running the service would be that necessary to cover the following charges, viz. :—

1. Interest on capital required.
2. Allowances for depreciation.
3. Insurance premiums.
4. Operating expenses.
5. Repairs and maintenance.

Dealing with these items in detail :—

1. CAPITAL CHARGES

	Amount.
Four airships of 3,500,000 cu. ft. capacity, at £400,000 each	1,600,000
Two double airship sheds at £300,000 each ..	600,000
Land for two sheds and aerodromes at £30,000 each	60,000
Workshops, gas plants, and equipment ..	150,000
Working capital, including spare parts, stores, etc.	170,000
Wireless equipment	10,000
Miscellaneous accessories	10,000
Total capital required	£2,600,000
Annual charge, interest at 10 per cent. ..	£260,000

2. DEPRECIATION

- (a) Airships.—Useful life, say three years. Obsolete value, say £20,000 per ship. Total depreciation per ship = £380,000 in three years. Average total depreciation per annum for four airships for three years = £507,000.
- (b) Airship sheds.—Useful life, say 30 years. Obsolete value in 30 years, 10 per cent. Total annual charges = £18,000.
- (c) Workshops and plant.—Depreciation at 5 per cent. per annum = £3,500.
- (d) Land for sheds and aerodromes.—Value would probably increase owing to use as airship station, but is assumed as remaining constant.

Total annual charge for depreciation, £530,000.

3. INSURANCE PREMIUMS

- (a) On airship value at 10 per cent. per annum, average per year for three years .. 110,000 |

(b) On sheds and plant at 2 per cent. per annum 13,500 |

Total annual insurance charges £123,500

4. ANNUAL ESTABLISHMENT EXPENSES

- (a) Salaries of officers and crew :—
- | | |
|--------------------------------------|--------|
| Four airship commanders | 4,000 |
| Eight airship officers | 6,000 |
| Total number crew hands = 64 | 16,000 |
| | 26,000 |
- (b) Salaries of establishment :—
- | | |
|--|--------|
| (i) Management and staff | 5,000 |
| (ii) Workshop hands, storekeepers, etc., 50 at each shed (total 100) | 20,000 |
| | 25,000 |

Total annual establishment expenses 51,000

5. REPAIRS AND MAINTENANCE

- (a) Sheds and plant—annual charge, say .. 5,000 |

(b) Repairs and overhaul of airships 20,000 || **Total charge** | **25,000** |

TOTALS OF ANNUAL CHARGES

- | | |
|-------------------------------------|----------------|
| 1. Interest on capital | 260,000 |
| 2. Depreciation | 530,000 |
| 3. Insurance | 123,500 |
| 4. Establishment expenses | 51,000 |
| 5. Repairs and maintenance | 25,000 |
| Total annual charges | 990,500 |
| Say | 1,000,000 |

* Issued by Vickers, Ltd.

COST CHARGEABLE PER CROSSING

The amount chargeable per trip, comprise :—(1) Proportion of annual charges ; (2) Cost of fuel and oil per trip ; (3) Cost of hydrogen used per trip ; and (4) Cost of food for crew and passengers.

Taking the number of crossings per year as 200, London-New York :—

- | | |
|---|-------|
| 1. Proportion of annual charges per crossing | 5,000 |
| 2. Petrol for trip, 30 tons at £25 per ton (1s. 6d. per gallon) | 750 |
| 3. Oil per trip, 2 tons at £40 per ton (2s. 6d. per gallon) | 80 |
| 4. Hydrogen used, 750,000 cu. ft. at 10s. per 1,000 cu. ft. | 375 |
| 5. Cost of food per trip for crew of 19, and 100 passengers | 400 |

Total charge per crossing, London-New York 6,605

This is at the rate of 38s. per ship mile flown. Carrying passengers, the rate would be :—London-New York = £48 per head, which is equivalent to 4d. per mile per passenger.

Rate for mails would be :—London-New York £425 per ton, or 3d. per ounce.

It will be seen from the above that the direct running cost is 25 per cent. and the overhead charges 75 per cent. of the total cost.

SECTION VI.—Financial and Working Arrangements and Government Subsidy

It is considered probable that proposals for Government support for the establishment of airship services would be favourably considered, as the constant use of airships for commercial work would be the best possible means of developing and improving the design, as suggested by the constant experience obtained in service. It would offer a means of keeping in constant training, officers and crews who would be available for naval service. The type of airships used for passenger and mail transport could also be very well adapted for use in the naval services should occasion require.

From the analysis of working cost in Section V, it may justifiably be anticipated that airship services, when fully established and patronised, will be able to show a good working profit. It would probably require considerable financial support before the service will be so established as to ensure full support from passenger and mail traffic when it would be able to be run on a paying basis. To establish and work trans-oceanic airship lines, it would be desirable to form a joint syndicate with a shipping company (e.g., the Cunard Line), who would undertake the organisation of the operation of the service and the necessary publicity ; Vickers, Ltd., to build the necessary airships and provide the necessary technical staff and facilities for maintenance.

The Government subsidy to the airship companies would probably be on the following terms :—1. Loan of airship sheds and flying grounds by the Government, free of charge, until the experimental stage is passed, and the company in a position to obtain the necessary capital for providing the requisite sheds and landing grounds for new services. 2. The loan of naval airship crews and handling parties, until the service was established as a paying concern, and until officers and crews could be trained by the airship company. 3. The Government to pay a substantial subsidy for the conveyance of express mails. 4. It is also possible that the Government would be prepared to share or undertake all the financial risk of the insurance of the airships until the security of the service was so established as to warrant underwriters giving reasonable rates.

It is understood that the German Airship Passenger Co., which was run by the Hamburg-America Steamship Co., was subsidised by the German Government to the extent of being provided with crews and handling parties of the Army and Navy airship services under training.

SECTION VII.—General Specification of Proposed Airship for Transport Services

General particulars (see illustrations) :—

- | | |
|--|-------------------|
| Gross gas capacity | 3,500,000 cu. ft. |
| Overall length | 800 ft. |
| Maximum diameter and overall width .. | 100 ft. |
| Overall height | 105 ft. |
| Total lift (at 68 lbs. per 1,000 cu. ft.) .. | 105 tons. |
| Disposable lift | 68 tons. |

Total maximum power of engines ..	3,500 b.h.p.
Cruising power ..	2,000 b.h.p.
Speed at full power ..	75 m.p.h.
Speed at cruising power ..	60 m.p.h.
Endurance at cruising power—	
When carrying 15 tons of passengers and freight ..	80 hours = 4,800 miles.
When carrying 10 tons of passengers and freight ..	90 hours = 5,400 miles.

Note.—The "disposable lift" is the lift available for fuel and oil, stores, crew and passengers, mails and freight, etc. The particulars and performance stated are based on present design, and the actual performance of ships of 2,000,000 cub. ft. capacity now in service. It is considered that the figures given are conservative, and that actually the increased size of ship would enable greater structural efficiency and consequently greater disposable lift available than that specified.

Special Features

PASSENGER ACCOMMODATION

Living saloon.—The main living accommodation would be in a saloon fitted along the top of the airship, provided with tables and chairs in the style of a Pullman car, which would enable the passengers to be comfortably accommodated during the day-time. Part of this saloon would be fire-proofed to allow of being used as a smoke-room. An open shelter deck would also be provided at the aft end to enable the passengers to take the air. The saloons would be provided with windows giving the passengers an all-round outlook. *A passenger lift* would be provided for communication between the passengers' quarters and the lower part of the ship. *Observation car.*—An observation car, fitted below the hull towards the aft end of the airship, would also enable passengers to observe the land and sea immediately below the ship. *Sleeping quarters.*—Sleeping accommodation in the form of berths would be provided in small cabins fitted on top of the airship forward of the living saloons. *Cooking.*—A mess kitchen would be provided fitted with electrical cooking apparatus. Meals would be served in the saloon. *Heating.*—The saloons and sleeping quarters would be heated by electric radiators.

Height Equilibrium

On long day and night flights, the greatest problem is the maintenance of the airship at a constant height, and avoid-

ing the loss of gas consequent on expansion due to the ship rising as she loses weight by the consumption of engine fuel. Also, owing to the great variation in temperature between day and night, the ship becomes heavy due to the lower temperature at night, and light, due to the higher day temperature, and thus would require a discharge of weight (ballast) at nightfall, and discharge of gas in the morning to keep the ship in equilibrium. To obviate discharge of gas, and the necessity of starting with a large weight of ballast, it is proposed to adopt the following means:—

(i) *Using hydrogen as fuel.*—Arrangements may be made to run a proportion of the engines on gas fuel, so the gas can be consumed at such a rate that the loss of lift equals the loss of weight of fuel consumed by the other engines, thus economically using gas which otherwise would be lost through the discharge of the gas-valves. For details of this scheme, see the appendix to this section, from which it will be seen that hydrogen as fuel is only approximately twice the cost of petrol.

(ii) *Water recovery from exhaust gases.*—Apparatus could be provided to condense the water of combustion from the exhaust gases of the engines. Experiments which have been carried out have demonstrated that it is practicable to recover water of slightly greater weight than the petrol fuel consumed, thus avoiding any variation in lift due to petrol consumption.

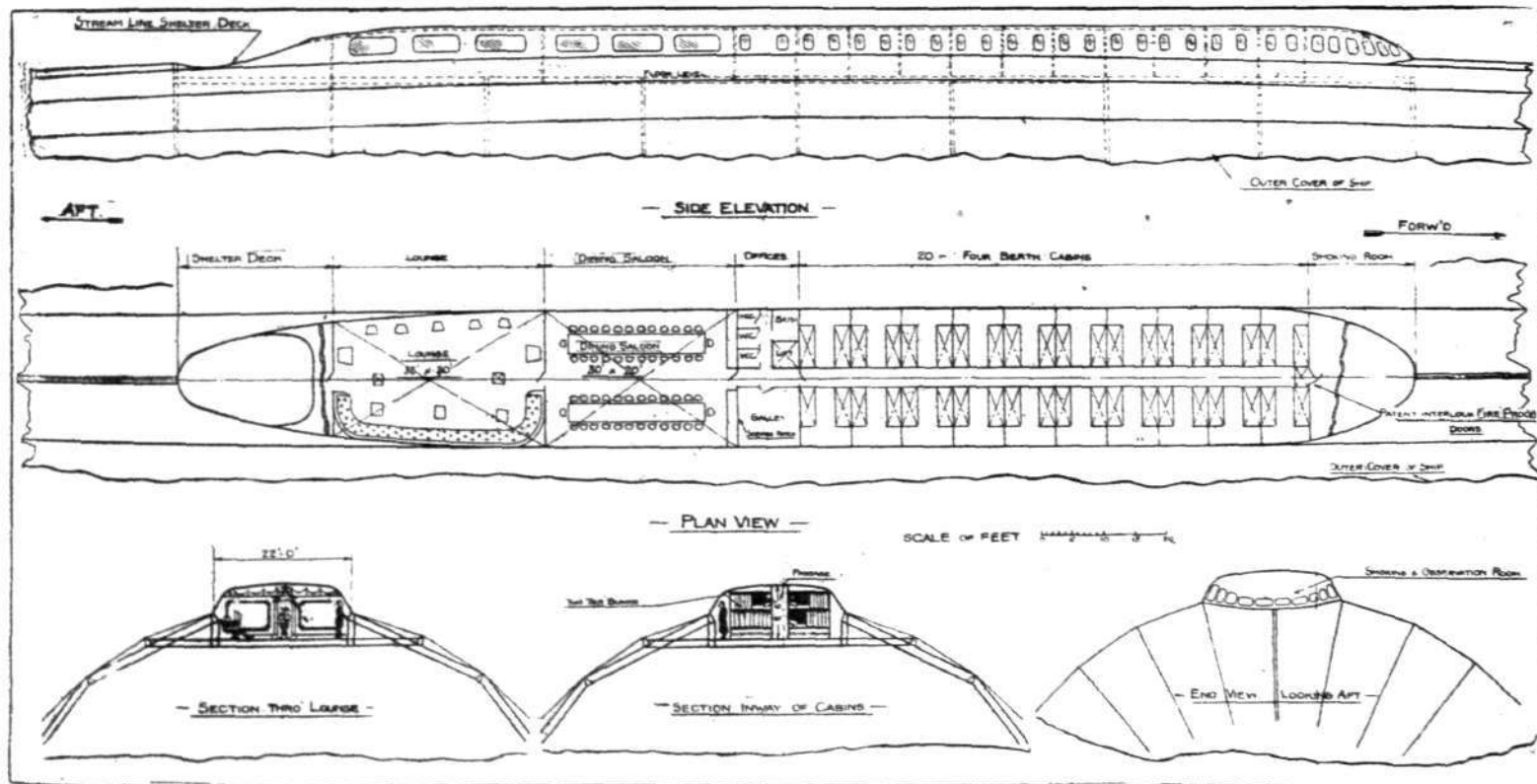
(iii) *Water ballast from the sea.*—Apparatus could be provided to enable water ballast to be picked up periodically from the sea by means of a pump suspended from a flexible hose, or by bringing the airship down on to the water's surface and taking water direct into tanks in the gondolas through sea-valves.

(iv) *Dynamic lift.*—If the airship is flown with a slight upwards or downwards inclination, a considerable lifting or weight effect is obtained, but this, however, entails a reduction in the flying speed of the ship.

General Specification

Hull structure.—The shape of the hull to be of the most perfect streamline form within the limitations of constructional requirements. An internal keel corridor, running along the bottom of the hull to be provided, in which all petrol and oil tanks and water ballast would be carried.

Outer covering.—The outer cover would be made of special weather proof fabric to give the longest possible life when subjected to the weather effects on continuous voyages. Also, to be as efficient as possible in insulating the gas from



PROPOSED VICKERS AIRSHIP LINER.—The diagrams show the passenger accommodation on top of the hull of the airship. The lounge, dining-saloon, and cabins are reached by a lift from the corridor in the keel of the airship. Fervent worshippers of my Lady Nicotine will, no doubt, be greatly relieved to find that a smoking-room is provided in the front portion of the "deckhouse," presumably so constructed as to prevent any danger of fire. The promenade deck aft of the lounge is of interest. Presumably the idea is that the air currents are carried away over the heads of the passengers by the stream-line shape of the aft portion of the cabin. Altogether, the placing of the passengers' quarters on top of the envelope is to be regarded as an excellent feature of the design, as it cannot fail to give timid passengers a sense of security that might be lacking where the cabin is slung below the hull.

change of temperature, and so avoid great variations in the lift. **Gasbags.**—The gas capacity would be divided up into gasbags made of suitable rubber proofed cotton fabric lined with goldbeaters' skins. Gasbags will be fitted to automatic relief valves and hand control manoeuvring valves. **Control and navigating compartment.**—A control and navigating compartment to be built on to the hull towards the forward end of the airship, which would contain all main controls, the navigating instruments and also the wireless telegraphy installation cabin. This compartment should be so arranged with windows as to have a clear view in every direction. **Machinery cars.**—Six machinery cars would be fitted, each containing one engine installation, with a direct driven propeller fitted at the aft end. Two of these cars to be suspended on each side of the hull, suitably arranged so as to give ample ground clearance for the propellers. The two other cars to be situated underneath the hull, and fitted with landing gear and floats.

Machinery Arrangements

Six engines, of a nominal 600 b.h.p. each, to be fitted, making a maximum total power of 3,500 b.h.p. The engines to be designed to develop their maximum full power when flying at a height of 5,000 ft. **Engine starting.**—Starting to be by the Maybach charging pump system, or, alternatively, the engines to be arranged to start on the hydrogen fuel. **Reversing gear.**—The transmission gear in two of the wing cars only to be fitted with reversing gear to enable the airship to be driven astern. **Cooling system.**—The radiators of the engine cooling system to be fitted in slides to enable them to be completely drawn into the cars when the engines are not running, to ensure their being kept sufficiently warm and prevent freezing. **Silencer.**—The engines are to be fitted with special exhaust silencers in order to reduce the exhaust noise to a minimum, and special consideration is also to be given in the design of the transmission gear, etc., to as far as possible obviate all objectionable noise. **Engine fuel.**—All engines to be designed for running on petrol fuel, but to be fitted with arrangements to enable them to be run alternatively on hydrogen gas.

Controls and communications.—All the following controls of improved type would be fitted, to be operated from the forward control compartment:—(i) Controls to the rudders and elevator planes for the steering control. (ii) Gas-valve

controls.—Control gear to be fitted to enable the gas discharge valves on a selected number of gasbags to be operated from the control compartment. (iii) **Ballast discharge control.**—Controls would be fitted to enable all the emergency water ballast discharge to be controlled from the forward compartment, all other water ballast to be discharged by local control. (iv) **Engine room telegraphs.**—Engine room telegraphs, preferably of the electrical type, would be fitted for communication from the forward compartment of the machinery cars. (v) **Telephones.**—Telephone communication would be provided between all stations on the ship.

Heating arrangements.—The living quarters and the control compartment would be heated by electric radiators. In the machinery cars arrangements would be made to utilise the exhaust heat for keeping the cars at the necessary temperature. **Landing gear.**—Inflated buffer landing bags of a special type would be fitted underneath the forward control compartment and underneath the two aft machinery cars, which would enable the airship to alight either on land or on the surface of the sea. **Mooring and handling gear.**—Hauling-down ropes, mooring ropes and sea anchor gear would be provided as necessary in connection with the mechanical handling and mooring-out arrangements. The airship would be provided with bow mooring gear to enable her to be moored out to the mooring tower. Special means of mechanically handling the airship when landing, and for taking her into the shed are to be provided on the landing grounds, and the necessary attachments in connection with this provided on the ship. These arrangements would be of such a nature as to reduce the number of hands required during these operations to the personnel usefully employed at the shed establishment. For full description of proposed methods of handling and mooring the airship see Section VIII.

Electrical installation.—Electrical power would be provided by dynamos driven off the main engines to provide current for electric lighting of the saloons and cars, and also to provide the electrical heating in the saloon cabin and sleeping quarters.

Wireless telegraphy.—A powerful wireless telegraphy installation would be fitted in the wireless cabin in the forward control compartment, and would have a range for sending and receiving of at least 5,000 miles.

(To be concluded.)

THE NEW AERIAL NAVIGATION BILL

THE following is the text of the Bill as introduced into the House of Commons last week:—

A Bill to make temporary provision for the regulation of aerial navigation and for purposes connected therewith.

Be it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1.—(1) It shall be lawful for a Secretary of State by order to regulate aerial navigation over the British Islands and the territorial waters adjacent thereto, and in particular, but without derogating from the generality of the above provisions, he may by any such order provide for—

(a) The grant, suspension and revocation of licences to pilots and other persons engaged in the navigation of aircraft:

(b) The registration, identification, inspection and certification of aircraft:

(c) The licensing, inspection and regulation of aerodromes:

(d) The conditions under which aircraft may be used for carrying goods, mails and passengers:

(e) The conditions under which goods, mails, and passengers may be imported and exported in aircraft into or from the British Islands, or from one of the British Islands to another.

(2) If any person contravenes or fails to comply with the

provisions contained in any such order he shall be guilty of an offence under the Aerial Navigation Act, 1911:

Provided that if proceedings are taken by the Commissioners of Customs and Excise for contravention of or failure to comply with any regulation made under paragraph (e), the proceedings shall be deemed to be proceedings for the recovery of a penalty under the enactments relating to customs.

(3) Every order made under this section shall have effect as if enacted in this Act, but as soon as may be after it is made it shall be laid before each House of Parliament, and if an address is presented to His Majesty by either House within the next subsequent 21 days on which that House has sat after the order has been so laid, praying that the order or any part thereof may be annulled, His Majesty may annul the order or part thereof, and it shall thenceforth be void without prejudice to the validity of anything previously done thereunder or to the making of a new order.

(4) The powers conferred by this Act shall be in addition to and not in derogation of the powers conferred by the Aerial Navigation Acts, 1911 and 1913.

2.—The purposes of the Air Council shall include all matters connected with aerial navigation.

3.—(1) This Act may be cited as the Aerial Navigation Act, 1919.

(2) This Act shall continue in force until the first day of January nineteen hundred and twenty and no longer.

Export of Aircraft Designs and Specifications

A PROCLAMATION in the London Gazette of February 14 revokes the prohibition of the exportation from the United Kingdom of drawings, designs, specifications, and other descriptions in writing of any kind of aeroplanes or other aircraft, or of engines, or other accessories of aircraft.

The Farman "Goliath" Visits Brussels

ON February 12 the famous "Goliath," carrying 17 passengers, including Mr. and Mrs. Henry Farman flew from Paris to Brussels in 2 hours and 10 minutes, and later in the day returned to Paris with the same passengers in 2 hours 42 minutes. Lieut. Bossoutrot, who flew the machine to London was again the pilot.

Paris-London Air "Record"

THE Air Ministry announces that on February 12 a British service machine of the London-Paris courier service flew to Paris and back in 4 hours and 20 minutes flying time. The return journey of 250 miles was made in 1 hour 50 minutes, which lowers the "record" made two days previously by 5 minutes.

In both cases the machine was an "Airco D.H. 4" of the open two-seater type, fitted with Rolls-Royce engines. De Havilland machines of an improved and specially constructed type, productions of the Aircraft Manufacturing Co., are to be employed for Mr. Holt Thomas's London-Paris Ritz-to-Ritz aerial passenger service.

200 H.P. HIGH COMPRESSION MERCEDES ENGINE

[Issued by the Technical Department (Aircraft Production) Ministry of Munitions.]

THE following report on the running performance of the 200 h.p. high compression Mercedes engine is based on an examination and tests carried out at R.A.E. on the engine (No. 775) taken from a Fokker D. 7 biplane (G/2 B/14)

standard 180 h.p. Mercedes engine already reported on, except as to the following points:—(1) New design of pistons giving increased compression. (2) Carburettor—fitted with altitude control. (3) Induction manifolds—water jacketed.

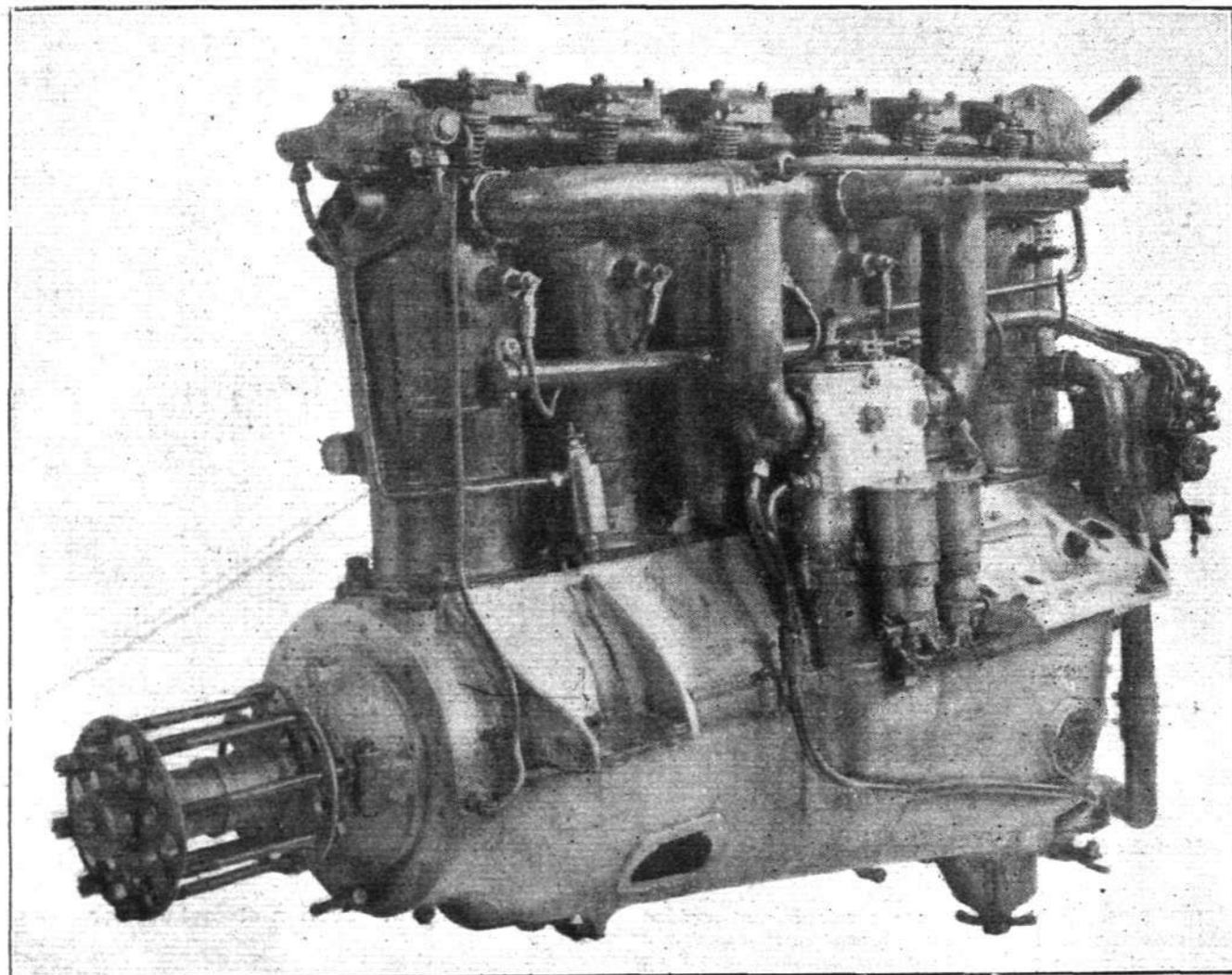


Fig. 1.—Induction side of engine

brought down in France on June 6, 1918. It is of interest to note that this is the first Mercedes engine to be fitted with an altitude compensator carburettor. This compensator which is here fully described, is so arranged that it is impossible to run the engine all out on the ground. In most respects this engine is identical in design with the

(4) Duplex horizontally opposed air pumps. (5) Wireless dynamo mounted on induction side of crankcase, driven by gearing from rear end of crankshaft.

Piston Design and Compression Ratio

The pistons used in these engines are of the usual Mercedes construction, being built up with steel crowns which carry

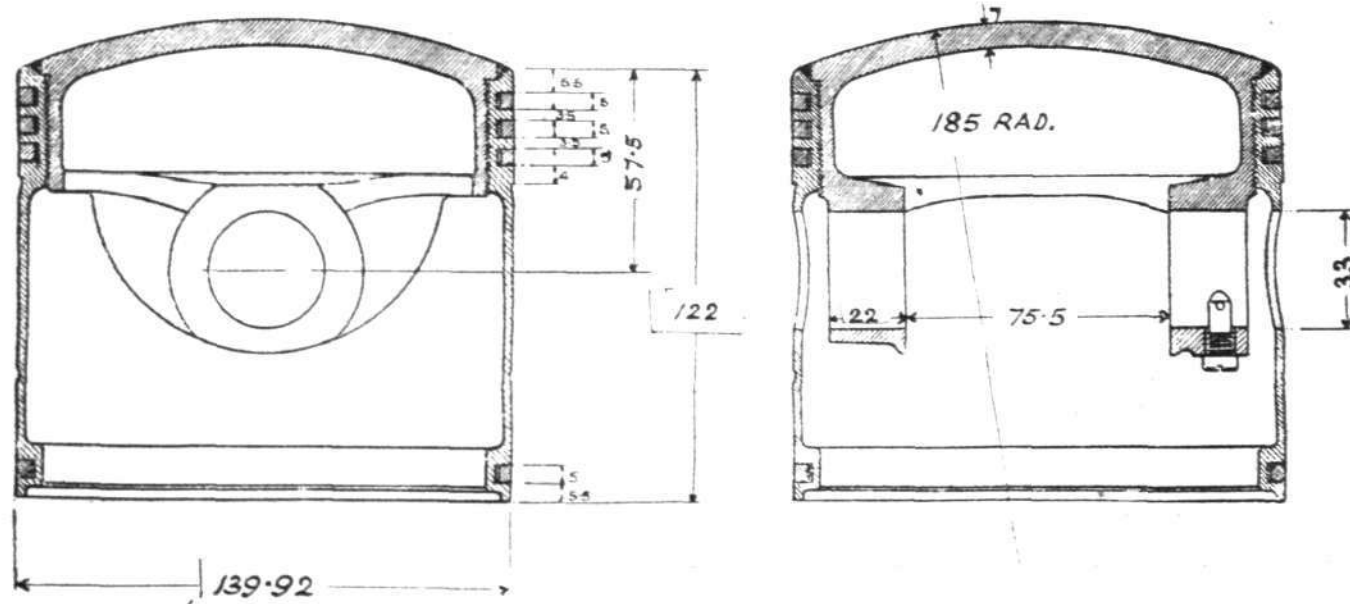


Fig. 2 —Details of piston

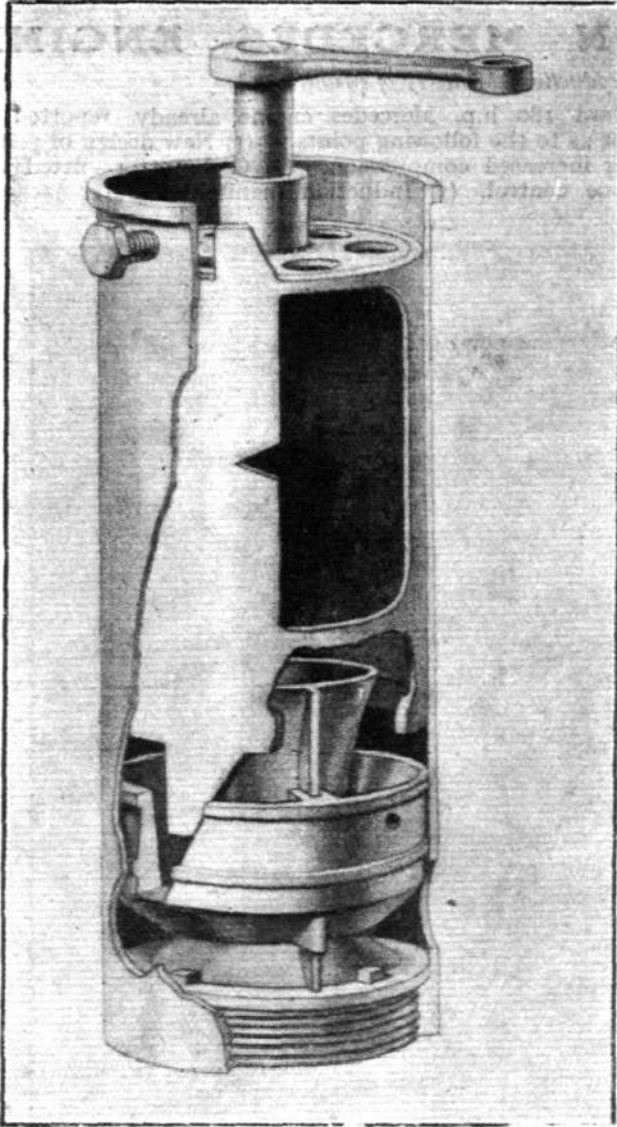


Fig. 3.—Sketch of throttle barrel and automatic air valve

the gudgeon pins. The crowns are screwed and welded into their cast iron skirts, and as shown in the sectional drawing (Fig. 2), are considerably domed as compared with the concave heads used in the standard 180 h.p. Mercedes engines, thus giving a compression ratio of 5.73:1, i.e., an increase of 23.54 per cent.

Standard 180 h.p. Mercedes connecting rods are fitted, and the distance from the gudgeon pin centre to the top of piston is the same as before.

Carburettor

The carburettor fitted to this engine is of the standard Mercedes type, with the exception of the throttle barrel, which is slightly modified to provide the automatic altitude control. This device consists of two extensions on the bottom of the barrel diametrically opposite to each other, of the shape shown in sketch (Fig. 3). A section of the complete carburettor is shown diagrammatically in Fig. 4. Slots are cut in the sliding air valve to correspond with the extensions on the throttle barrel. The throttle control lever is marked for opening out to its maximum ground level position, and at all throttle openings up to this mark the lift of the sliding air valve is restricted owing to its coming in contact with the extensions on the throttle barrel. Immediately the throttle is opened past the mark on the control lever, the extensions on the throttle barrel come in line with the slots in the sliding air valve, allowing the air valve to lift to its maximum position and uncover extra air holes, thus weakening the mixture to such an extent that the engine stops if the throttle is fully opened on the ground.

Induction Manifolds

The induction manifolds are fitted with welded steel water jackets in place of the usual asbestos lagging. The jackets are each in direct communication with a feed from the water pump to the carburettor, the respective outlets being connected to the rear end cylinder jacket. Circulation is controlled by a cock on the return pipe (presumably for use in hot weather) which does not affect the water supply to the carburettor jackets.

Air Pump

A double acting air pump of the usual plunger type is now fitted in place of the standard Mercedes air pump used hitherto on these engines. Both plungers are operated by a small common crank attached to the front end of the cam-shaft, the construction of which is shown in Fig. 5.

(Continued on page 236.)

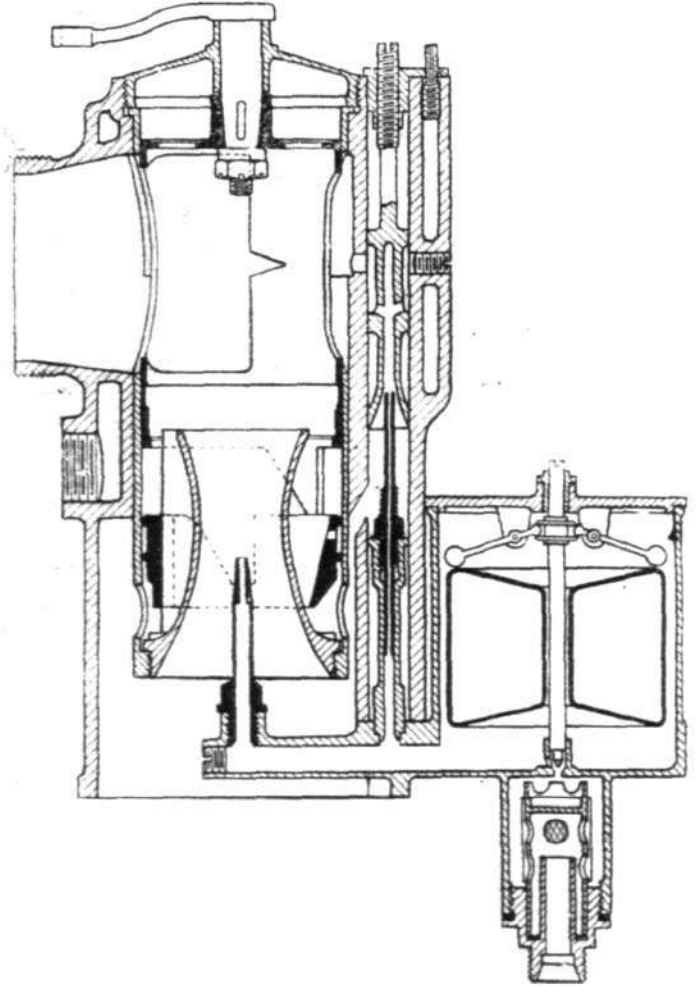


Fig. 4.—Section of carburettor

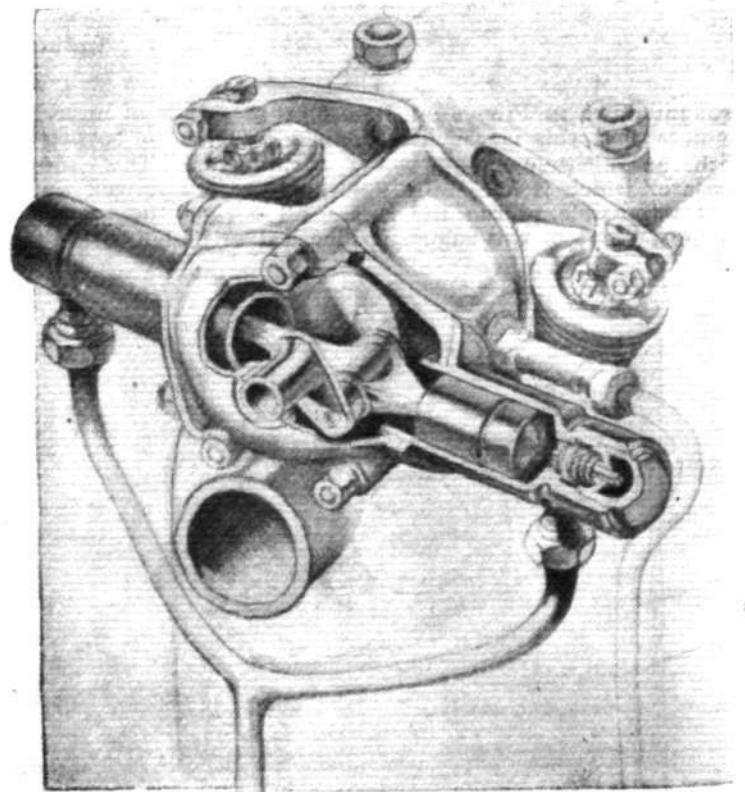


Fig. 5.—Sketch of Duplex air pump

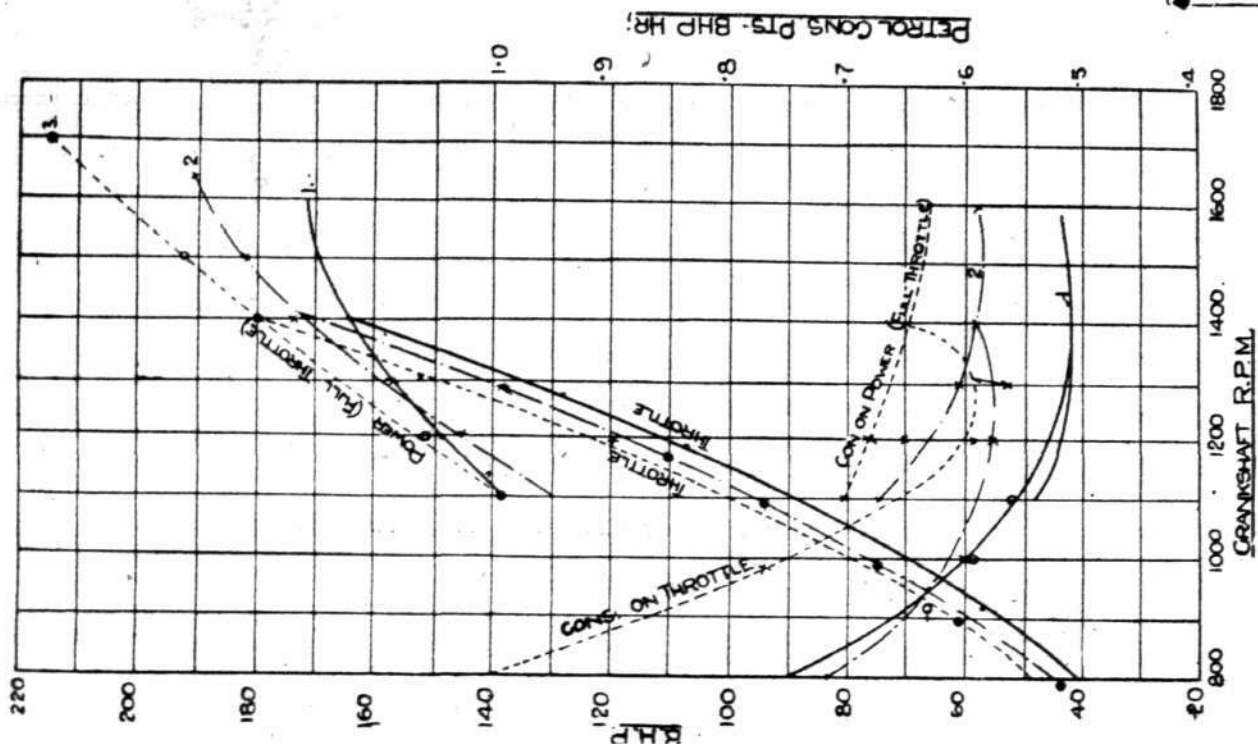


Fig. 6.—Power, throttle and consumption curves

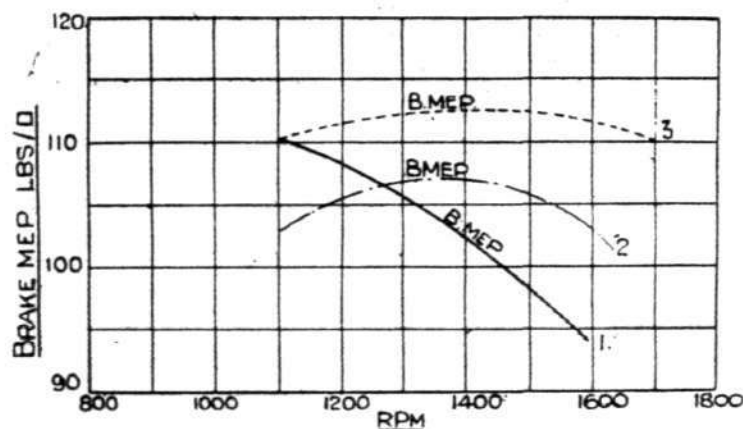


Fig. 7.—B.M.E.P. curves

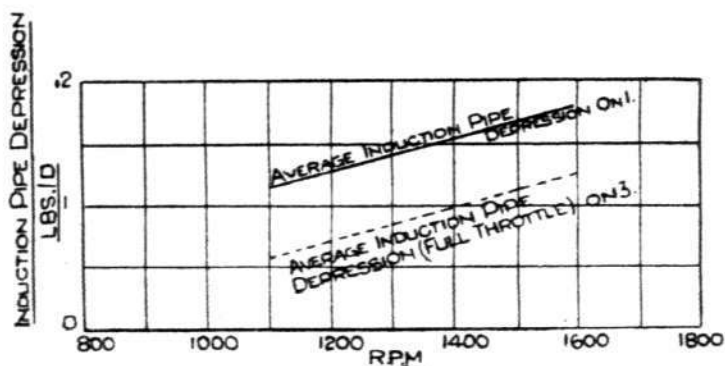


Fig. 8.—Induction pipe calibration curves

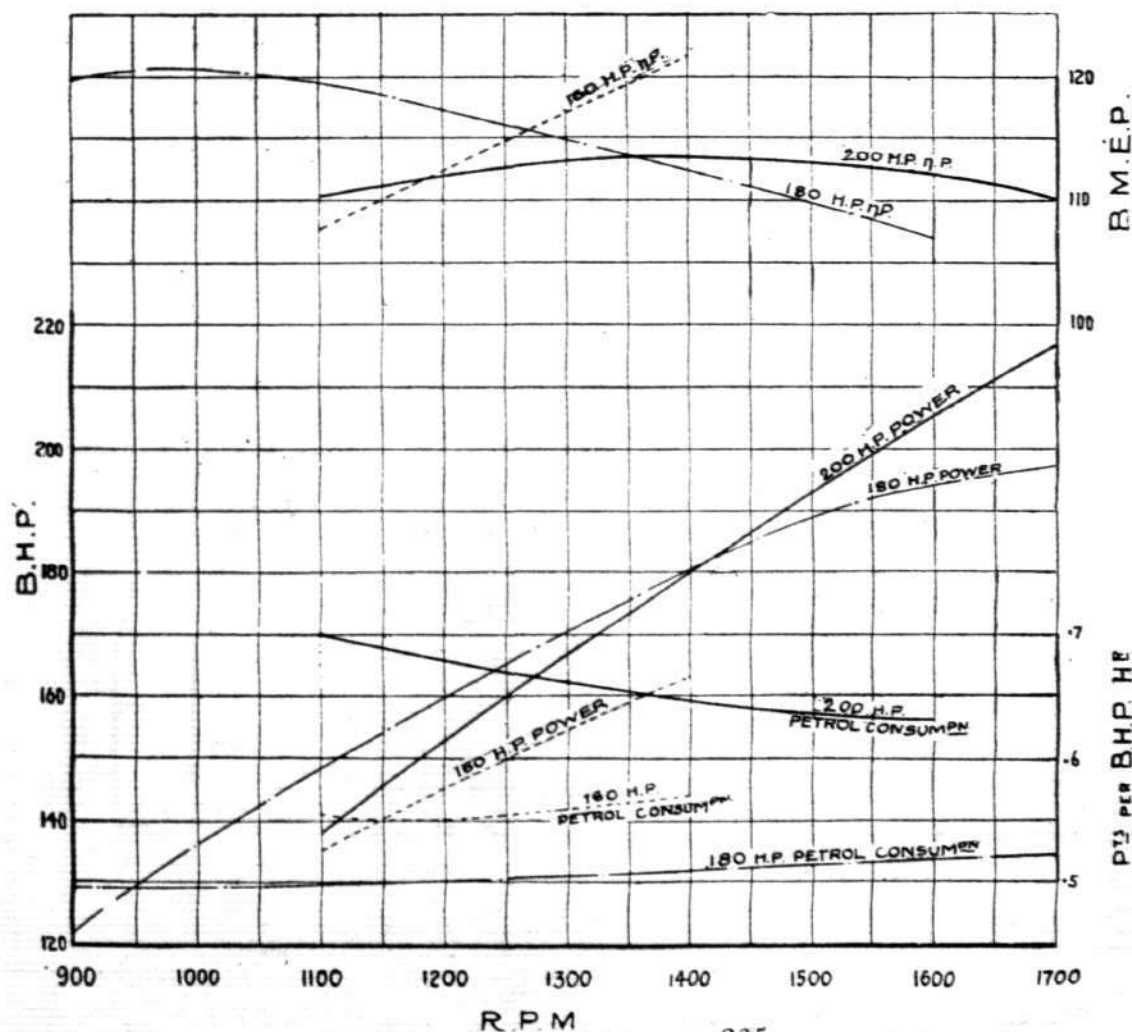


Fig. 9.—Comparative chart, showing power, consumption and B.M.E.P. of 160, 180 and 200 h.p. Mercedes engines

(Continued from page 234.)

Comparative Data of Mercedes Engine

In view of the similarity of design of the 160 h.p., 180 h.p., and 200 h.p. (high compression) Mercedes engines, the following brief comparison of the leading data is interesting:—

	160 h.p.	180 h.p.	200 h.p. (H.C.)
Bore ..	140 mm.	140 mm.	140 mm.
Stroke ..	160 mm.	160 mm.	160 mm.
Compression ratio.	4.5 : 1	4.64 : 1	5.73 : 1
Normal b.h.p. and speed.	162.5 at 1,400 r.p.m.	174 at 1,400 r.p.m.	204 at 1,600 r.p.m.
b.h.p. per c.f. stroke vol.	312 b.h.p.	334 b.h.p.	391 b.h.p.
b.h.p. per sq. in. piston area.	163.5 b.h.p.	175 b.h.p.	205.4 b.h.p.
Normal b.m.e.p.	102 lbs. sq. in.	109 lbs. sq. in.	112 lbs. sq. in.
Fuel consumption per b.h.p. per hour.	0.58 pt. = 0.522 lb.	0.545 pt. = 0.491 lb.	0.629 pt. = 0.566 lb.
Diameter of choke tube.	24.0 mm.	24.0 mm.	24.0 mm.
Capacity of main jets.	355 cc. per min.	355 cc. per min.	450 cc. per min. (test jet) 250 cc. per min. (standard jet)
Oil consumption per b.h.p. per hour.	0.031 pt. = 0.035 lb.	0.042 pt. = 0.047 lb.	0.029 pt. = 0.032 lb.

Valve Timing

	160 h.p.	180 h.p.	200 h.p.
Inlet opens	2° L.	Top dead centre.	1° L.
Inlet closes	35° L.	40° L.	40° L.
Exhaust opens.	63° E.	40° L.	40° E.
Exhaust closes.	13° L.	10° L.	8° L.

Tappet Clearances

	160 h.p.	180 h.p.	200 h.p.
Inlet ..	0.017 in.	0.017 in.	0.017 in.
Exhaust ..	0.014 in.	0.015 in.	0.015 in.
Magneto timing.	30° E.	30° E.	30° E.

Tests

Three sets of calibration curves were taken in the following order:—(a) With the carburettor opened out to its maximum position for ground level running; (b) With the sliding air valves fixed at the base of the choke tubes and the throttle fully opened; (c) With a 180 h.p. Mercedes carburettor (which had no altitude control) fitted in place of the standard

carburettor, the jets being opened out to suit the engine, and the curves being taken with the throttle fully opened. In the last test a fair amount of trouble was experienced with over-heating, due to the high compression ratio employed, but this was overcome at the expense of petrol consumption. From the general running it is assumed that the normal speed of the engine is in the region of 1,500-1,600 r.p.m., as these are the best running speeds. Below 1,400 r.p.m. the engine is very rough, and it has a very bad period between 1,000-1,200 r.p.m.

Summary of Power Curves

r.p.m.	1,200	1,400	1,600
Para. as above	(a)	(b)	(c)
b.h.p.	148.5	144.5	151
b.m.e.p. lbs./in.	108.5	105.5	110
Petrol consumption pt. b.h.p./hr.	.515	.650	.680
r.p.m.	1,400	1,600	
Para. as above	(a)	(b)	(c)
b.h.p.	164	174	180
b.m.e.p. lbs./in.	102.5	109	112.5
Petrol consumption pt. b.h.p./hr.	.511	.590	.645
r.p.m.	1,600		
Para. as above	(a)	(b)	(c)
b.h.p.	171	186	204
b.m.e.p. lbs./in.	94	102	111.9
Petrol consumption pt. b.h.p./hr.	.520	.590	.629

Maximum power recorded.—217 b.h.p. at 1,750 r.p.m.

Induction pipe depressions were taken between Nos. 1 and 2 cylinders. (See Calibration Curves, Fig. 8.)

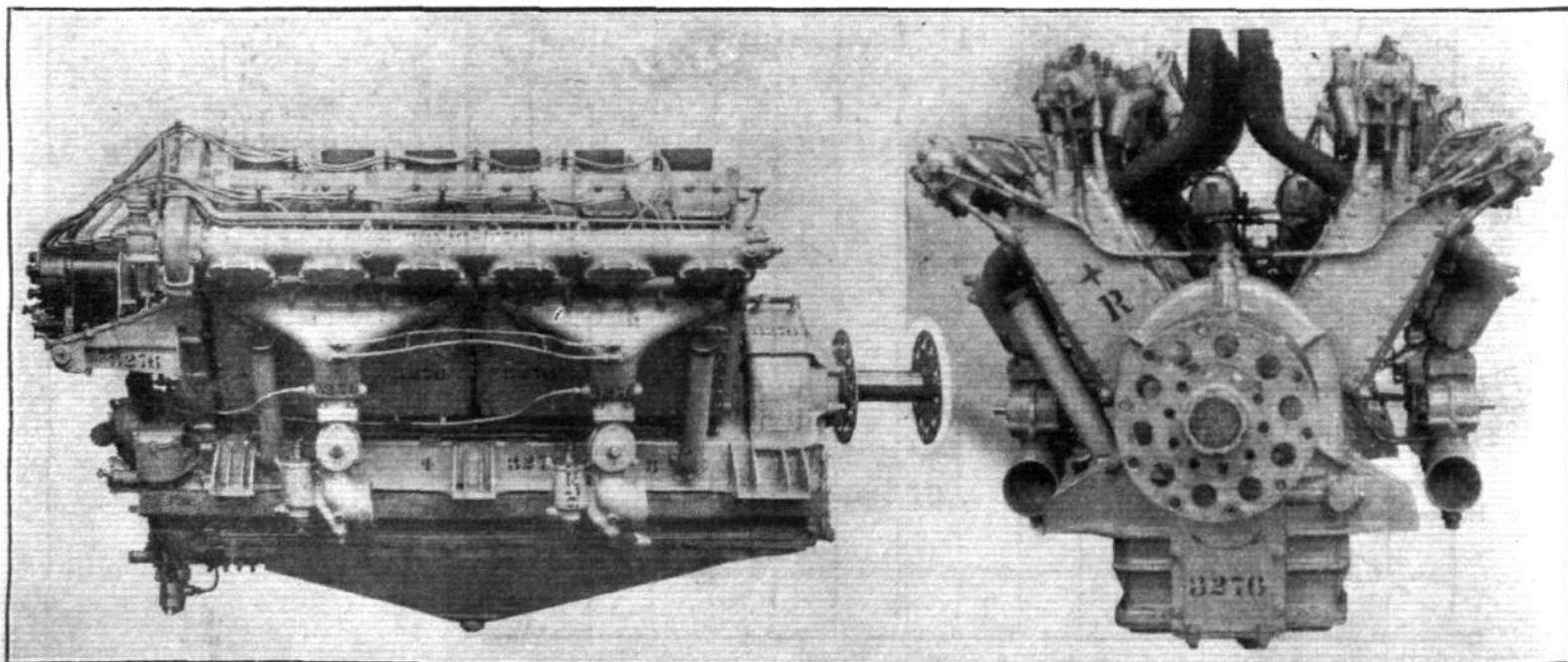
Subsequently two one hour duration tests were carried out—1 at 1,500 r.p.m., 1 at 1,600 r.p.m.

r.p.m.	1,500	1,600
Average b.h.p.	168	171
Average water inlet temperature.	60° C.	58° C.
Average water outlet temperature.	67° C.	63° C.
Average oil pressure	20 lbs. sq. in.	20 lbs. sq. in.
Average oil temperature in tank.	23° C.	20° C.
Oil consumption	4 pts. per hour = .024 pt./h.p./hr.	5 pts. per hour = .029 pt./h.p./hr.
Petrol consumption	91 pts./hr. = .54 pt./h.p./hr.	96.5 pts./hr. = .565 pt./h.p./hr.

No Huge Machines

* ADDRESSING members of the City of London United Wards Club the other day, Mr. Handley Page said he was convinced we should not have huge machines carrying

hundreds of passengers; the great thing that the aeroplane would do was to provide quick transit over very long distances. By the next generation the full use of the aeroplanes would be realised.



The Sunbeam "COSSACK," 12-cylinder engine of 320 h.p.

COMPARATIVE CHART OF AEROPLANES IN THE ITALIAN SERVICE.

(See page 238.)

FEBRUARY 20, 1919

Aeroplanes.		Engines.		Speeds.		Duration of Climb.				Ceiling, Calc.	Air Endurance at G. L. at maximum r.p.m.	Crew.	Armament, Guns and Mountings.	Total Load.	Components of Total Load.					Weights.			Span (Ft.).	Length (Ft.).	Height (Ft.).	Total Surface (Sq. Ft.).	Load per Square Foot.	
Type.	Type.	Normal h.p.	Ground Level, Speed, m.p.h.	6500 ft. (2000 M.), Speed, m.p.h.	To 3280 ft. (1000 m.).	To 6500 ft. (2000 m.).	To 10000 ft. (3000 m.).	To 13000 ft. (4000 m.).	Petrol and Oil.						Crew.	Armament and Ammunition.	Miscellaneous.	Bombs.	Empty.	In Flying Trim.	Per h.p.							
MACHINES ATTACHED TO ARMY CORPS.																												
Aviatik	Salmson	143	71.5	..	m. s. 8 0	m. s. 18 0	m. s. 40 0	..	..	h. m. 3 30	2	1 M.G.	726	308	330	66	22	..	1540	2266	15.9	39.4	25.6	10.2	430	5.27
Caudron G.3 (a)	Le Rhone	88	68.0	..	7 0	16 0	32 0	55 0	19000	4 0	2	..	627	275	330	..	22	..	979	1606	18.3	43.4	23.3	8.4	290	5.54		
Caudron G.4 (a)	2 Le Rhone	176	83.0	..	5 0	11 0	20 0	36 0	26000	4 30	2	1 M.G.	1100	616	330	66	88	..	1870	2970	16.8	55.4	24.0	8.54	430	6.97		
Farman 14	Fiat A.10	110	67.0	..	10 0	24 0	45 0	75 0	15000	4 0	2	1 M.G.	638	242	330	66	..	..	1408	2046	18.6	53.2	31.2	10.5	602	3.38
Farman Colombo	Colombo with Ova booms	120	74.5	..	7 0	16 0	26 0	50 0	..	4 0	2	1 M.G.	638	242	330	66	..	..	1408	2046	17.05	53.2	31.2	10.5	602	3.38
Voisin	Salmson	143	65.0	..	10 0	23 0	45 0	..	..	3 30	2	1 M.G.	792	374	330	66	22	..	1760	2552	17.8	48.4	31.2	9.2	580	4.4
Voisin	I.F.v.4.8.	190	71.5	..	8 0	18 0	35 0	..	19500	4 0	2	1 M.G.	770	374	330	66	..	..	1980	2750	14.5	48.4	31.2	9.7	580	4.75
RECONNAISSANCE MACHINES.																												
Pomilio C.1 (b)	Fiat A.12, Type D	270	114	110.5	5 27	12 36	22 1	37 0	..	3 0	2	2 M.G.	880	440	330	110	..	..	2589.4	3469.4	12.9	36.4	30.8	9.85	495	7.05
Savoia Pomilio 2	Fiat A.12	270	84.0	..	6 30	18 0	28 0	46 0	..	4 0	2	1 M.G.	990	495	330	55	..	110	2750	3740	13.9	55.0	35.2	11.7	720	5.21		
Savoia Pomilio (light structure)	Fiat A.12	270	91.5	91.0	4 50	12 0	21 30	36 0	..	4 0	2	1 M.G.	990	495	330	55	..	110	2310	3300	12.2	48.3	35.2	11.7	645	5.13		
Savoia Pomilio (twin engines)	2 I.F.v.4.8	380	91.5	..	5 45	13 0	23 30	42 30	..	4 0	3	2 M.G.	1540	759	495	176	..	110	3520	5060	13.3	65.0	35.2	11.7	840	6.05		
S.A.M.L. large wings (b)	Fiat A.12	270	100	..	5 44	12 18	21 6	36 24	..	3 30	2	1 M.G.	924	440	330	66	..	88	2156	3080	11.4	45.3	27.9	9.7	484	6.37		
S.A.M.L. (reduced wings (b))	Fiat A.12	270	104.0	..	5 41	12 6	21 37	39 45	..	3 30	2	1 M.G.	825	440	330	55	..	..	2112	2937	10.9	41.0	27.9	9.7	420	7.04
*S.I.A. (Reconnaissance) 7.B	Fiat A.12	270	118	117.5	2 45	7 30	11 45	18 45	..	4 0	2	2 M.G.	1100	495	330	110	33	132	2120.8	3220.8	11.9	43.8	30.4	9.85	516	6.25		
*S.I.A. (Reconnaissance) 7.B	Fiat A.12	270	..	..	..	..	..	..	21000	..	2	..	770	..	..	..	..	..	2120.8	2890.8	10.7	43.8	30.4	9.85	516	5.6
*S.I.A. (Reconnaissance) 7.B	Fiat A.12	270	..	..	..	..	..	..	25000	..	1	..	550	..	..	..	..	..	2120.8	2670.8	9.9	43.8	30.4	9.85	516	5.2
BOMBERS.																												
*Caproni Bi. (c)	3 Fiat A.12	810	90.6	..	6 30	14 35	25 0	40 0	15000	4 0	3	2 M.G.	3300	1452	495	110	55	1188	6600	9900	12.2	77.0	41.2	13.85	1420	7.0		
*Caproni Tri. (d)	3 I.F.v.5.	810	77.6	73.6	19 41	51 25	..	..	9400	7 0	5	4 M.G.	6600	2310	825	220	55	3190	8025.6	14625.6	18.1	101.9	49.3	21.4	2690	5.45
Caproni (e)	3 Fiat A.10	330	73.5	..	12 0	28 0	50 0	..	..	6 0	3	2 M.G.	2200	1100	495	110	55	440	4268	6468	19.6	73.4	35.8	12.6	1053	6.15
Caproni (f)	2 Fiat 1 I.F. A.10 v.4.8	410	81.0	..	10 0	22 0	40 0	65 0	..	5 30	3	2 M.G.	2200	1100	495	110	55	440	4378	6578	16.1	73.4	35.8	12.6	1053	6.25		
Caproni (g)	3 I.F.v.4.8	570	86.0	..	5 30	12 10	21 0	30 0	..	4 0	3	2 M.G.	2200	1100	495	110	55	440	5060	7260	12.8	73.4	35.8	12.6	1053	6.9		
*S.I.A. 9b	Fiat A.14	700	134.0	130.2	4 30	10 0	18 0	26 45	16500	3 0	2	2 M.G.	2442	770	330	110	11	1221	3938	6380	9.13	50.9	33.2	13.1	710	9.1		
*S.P. 4	2 S.P.A.	460	93.2	91.4	3 0	8 15	14 0	..	..	4 0	3	2 M.G.	2200	792	495	110	22	781	3740	5940	12.9	65.0	35.2	11.66	839	7.1
*S.I.A. 7b (bmbr.)	Fiat A.12	270	116.0	114.1	4 0	9 30	18 0	36 45	..	4 0	2	2 M.G.	1760	572	330	110	22	726	2090	3850	14.3	43.8	30.4	9.85	516	7.46		
FIGHTERS.																												
*Hanriot-Dupont	Le Rhone	110	113.0	109.1	2 10	5 10	8 30	13 10	..	2 30	1	1 M.G.	396	176	165	55	..	..	869	1265	11.5	27.9	19.7	8.36	193.5	6.56
Nieuport One-Seater	Le Rhone	88	95.0	..	5 0	11 8	18 37	27 40	22000	2 30	1	1 M.G.	352	154	165	33	..	..	792	1144	13.0	24.45	18.3	8.9	140	8.2
Nieuport One-Seater	Le Rhone	110	102	100	3 15	6 30	11 30	..	..	2 30	1	1 M.G.	396	187	165	44	..	..	858	1254	11.4	26.95	18.4	7.7	161	7.8
Spad One Seater, flat-winged	H.S.	140	123.5	120.5	2 0	5 50	9 50	..	..	2 0	1	1 M.G.	451	231	165	55	..	..	1100	1551	11.0	25.8	20.0	7.2	192	8.1
*S.V.A. (Fighter)	S.P.A.	230	143.5	..	1 40	4 30	8 10	13 0	..	2 30	1	2 M.G.	506	231	165	110	..	..	1496	2002	8.7	30.05	26.8	9.2	263.0	7.62
*S.V.A. (Escort)	S.P.A.	230	143.0	..	2 30	7 30	12 0	18 0	..	5 0	1	2 M.G.	759	462	165	110	22	..	1533.4	2292.4	10.0	30.05	26.8	9.2	263.0	8.7		
*S.V.A. (Escort)	S.P.A.	230	143.7	..	2 10	5 30	10 15	15 15	..	..	1	..	495	..	..	..	..	..	1533.4	2292.4	10.0	30.5	26.8	9.2	263.0	8.7
HYDROPLANES.																												
Lohner 1	I.F.v.4.8	190	65.0	..	13 0	13 0	..	..	..	6 0	2	1 M.G.	1302.4	572	330	114.4	..	286	2530	3832.4	20.2	53.2	34.2	11.5	570	6.7
Lohner 2 (L.C.)	I.F.	190	87.0	..	8 0	19 0	38 0	..	..	4 0	1	1 M.G.	990	440	330	66	22	132	2090	3080	16.3	53.2	34.8	10.4	516	6.0
Lohner 3 (b)	I.F.	190	89.0	..	6 58	16 17	29 11	57 30	..	4 0	2	1 M.G.	990	440	330	66	22	132	1804	2794	14.75	52.4	33.6	10.5	495	5.65		
F.B.A.	Gnome-Mono	102	68.5	..	7 30	17 0	40 0	..	..	4 0	1	1 M.G.	693	308	165	66	..	154	1265	1958	19.15	45.0	28.9	10.0	329	6.0
F.B.A.	H.S.	140	86.0	..	8 30	24 0	40 0	..	15000	4 0	2	1 M.G.	946	407	330	66	33	110	1782	2728	19.5	47.6	33.2	10.9	448	6.15		
F.B.A.	I.F.v.4.8	190	90.0	..	8 0	19 0	38 0	53 0	..	4 0	2	1 M.G.	1045	440	330	66	33	176	2035	3080	16.2	47.6	33.2	11.1	448	6.86		
Macchi One-Seater	I.F.v.4.8	190	108.5	..	3 45	8 45	14 0	22 0	..	3 0	1	1 M.G.	572	275	165	55	33	44	1507	2079	10.9	39.4	27.2	9.85	301	6.9		
*Sopwith	Le Rhone	110	96.4	..	5 0	12 0	25 0	..	..	3 0	1	1 M.G.	440	220	165	55	..	..	1056	1496	13.6	25.6	23.0	9.85	236.2	6.35

* Experimental machines. (a) Artillery destroyers. (b) Average of acceptance tests in August. (c) Six machine guns can be fitted. (d) Nine machine guns can be fitted. (e) The load of bombs can be increased by reducing the air endurance, which in practice will not exceed 5 hours. (f) Generally the air endurance is reduced, in order to increase the load of bombs. (g) The 16,500 ft. was attained with a load of 1,760 lbs. in 38 minutes.

FLIGHT

MORE STATISTICS.

In our last issue we published a series of tables of various aero engines, British and French aeroplanes, etc., compiled by the U.S.A. Air Ministry. It was originally intended to include also tables of American aeroplanes, and of machines used in the Italian Air Service. Unfortunately, however, space did not permit inclusion of the last two tables, and these are therefore given in the present issue, pp. 237 and 238. Last week we mentioned that one of these tables was of particular interest, in that it showed differences between the original British machines and the American

version thereof. Unfortunately this table, as already mentioned, was not included, and the reference to it in the introductory paragraph, by an oversight, was not deleted. The second table published this week, that of particulars of machines used in the Italian Air Service, is interesting on account of the fact that up till now it has been difficult to obtain reliable data relating to Italian machines. It will be noticed that quite a fair proportion of the machines are of French design, although original Italian designs are well represented.

RECORD OF PERFORMANCE OF AMERICAN PLANES

This Table Serves to Illustrate the Numerous Types of Aeroplanes Built by the U.S. Government Since June, 1917

Type.	No. of Seats.	Engine.	Altitude (Ft.).	Climb Time.	Rate, Ft. per Min.	R.P.M.	Speed.	R.P.M.	Service Ceiling at 100 Ft. per Min.	Weight, Empty (Lbs.).	Military Load (Lbs.).	Fuel and Oil Load (Lbs.).	Total Load (Lbs.).	Endurance at 6500 Ft.	Gas Consumption (Lbs. per Hour).	Oil Consumption (Lbs. per Hour).	Theoretical Ceiling (Ft.).
Ordnance Scout	Engineering 1	80 Le Rhone	0	m. s.	..	..	98	1180	13500	835	282	..	1117	..	..	..	..
			6500	9	0	535	1140	94	1175	..	..	..	..	..	..	..	..
			10000	17	30	315	1100	84	1175	..	..	..	..	..	..	..	..
			15000	55	0	..	1100	70	1100	..	..	..	..	..	..	..	..
Bristol Scout	..	80 Le Rhone	0	11	45	400	1260	88.3	..	13000	789	286	..	1075	..	..	..
			6500	23	26	240	1215	83	..	..	..	..	..	..	..	..	..
			10000	..	..	..	..	75	..	..	..	..	..	..	..	..	..
Lepere	..	Liberty 12	0	..	..	1500	136	1800	20800	..	..	..	..	..	..	..	22000
			6000	5	35	..	1540	132	1740	..	..	..	..	..	..	..	..
			10000	10	35	..	1520	127	1680	..	..	..	..	..	..	..	..
			15000	19	15	..	1500	118	1620	..	..	..	..	..	..	..	..
			20000	41	0	..	1480	102	1550	..	..	..	..	..	..	..	..
S.E. 5 (British)	..	180 Hispano-Suiza	0	..	..	1170	123.0	2100	19400	..	..	..	2051	..	..	..	..
			6500	6	50	810	1800	118.5	2080	..	..	..	..	..	..	..	..
			10000	11	34	615	1800	115.5	2000	..	..	..	..	..	..	..	..
			15000	21	20	340	1800	107.5	1965	..	..	..	..	..	..	..	..
			20000	50	17	60	1780	85.0	1820	..	..	..	..	..	..	..	..
S.E. 5 (American)	..	180 Hispano-Suiza	0	..	..	..	121.6	2100	20400	..	..	..	2060	..	..	..	..
			6500	8	0	750	1800	120.0	2140	..	..	..	..	..	..	..	..
			10000	13	0	590	1800	117.0	2080	..	..	..	..	..	..	..	..
			15000	22	10	350	1800	109.0	2000	..	..	..	..	..	..	..	..
			20000	50	30	140	1790	92.5	1860	..	..	..	..	..	..	..	..
Standard E-1 or M-Defense	..	80 Le Rhone	0	..	..	..	99.8	1240	..	828	01	115	1144	..	48	7.5	14800
			6000	10	0	..	1180	..	..	..	..	..	..	..	..	..	..
			6500	..	..	..	94.0	1240	..	..	..	..	..	..	..	..	..
			10000	22	20	..	1180	85.0	1220	..	..	..	..	..	..	..	..
V.S. B-1 (British Fighter)	..	300 Hispano-Suiza	0	..	..	114.5	1760	..	..	..	..	..	..	..	..	..	..
			6500	5	35	1600	113.6	1700	..	1842	742	344	2910	..	155	8	25000
			10000	10	45	1600	109.5	1660	..	..	..	..	..	..	..	..	..
			15000	19	30	1600	101.0	1600	..	..	..	..	..	..	..	..	..
De Havilland 4	..	Liberty 12	0	..	..	..	124.7	..	19500	2391	1191	..	3582	Full time, 2' 12"	..	..	..
			6500	..	..	..	120.0	..	..	..	..	..	..	..	..	..	..
			10000	14	5	..	117.0	..	..	..	..	..	..	Half throttle, 3' 3"	..	..	..
			15000	..	..	..	113.0	..	..	..	..	..	..	..	..	..	..
Handley-Page 0-400	..	2 Liberty 12's	0	..	..	..	97.0	..	14000	..	..	..	11270	..	..	..	..
			7000	..	..	..	18.10	..	..	..	..	..	..	..	..	..	..
			10000	..	..	..	29.0	..	..	..	..	..	..	..	..	..	..
V.E. 7	..	150 or 180 Hispano-Suiza	0	..	..	..	106	1730	17500	1392	545	..	1937	..	..	..	..
			6500	8	50	635	1970	103	1700	..	..	..	..	..	..	..	..
			10000	15	15	462	1480	97	1650	..	..	..	..	..	..	..	..
			15000	29	0	220	1480	86	1600	..	..	..	..	..	..	..	..
De Havilland 9	..	400 Liberty	0	..	..	..	116	..	17000	..	..	..	..	4' 0"	..	..	..
			10000	9	0	..	109	..	..	..	..	..	..	..	..	..	..
Handley-Page V	..	4-375 h.p.	0	17	0	..	110	..	13000	..	..	..	..	15' 0"	..	..	..
	to 11	Eagle VIII	..	..	..	..	98	..	..	..	..	..	..	..	..	..	..
		Rolls-Royce	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
JN-1-D	..	Curtiss OX5 90 h.p.	0	..	..	..	75	..	..	1920	..	..	..	..	..	..	..
			10000	..	..	..	..	..	..	..	..	..	..	..	..	..	..
JN-6-H	..	Hispano-Suiza	0	..	..	..	105	..	..	2145	..	..	..	..	..	..	..
		150 h.p.	10000	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Aerial Mails and a Standing Air Force

"THE future of commercial aviation lay not in short distance passenger flights, but in vast distances, in opening up undeveloped countries, and in forming an even stronger link with our oversea dominions," said Maj.-Genl. Sir W. S. Brancker at a luncheon given by the Lord Mayor of Newcastle in connection with the opening of the Aircraft Exhibition in the city. Genl. Brancker went on to say that the future would see mails carried by 300-mile stages to Cape Town, Calcutta, and probably Australia, but as far as crossing the Atlantic was concerned, the airship would probably be used. The Government were alive to the future of aviation, but were limited to what the Treasury, now pledged to retrenchment, would give. The country would have to depend on individual enterprise. The League of Nations involved, to a certain extent, disarmament, but England was the one nation that would have to keep up an appreciable standing Air Force if we were to be safe in the future. Probably the future safety of the country depended on the air, and we therefore depended on our warlike strength in the air. Other countries were more self-contained, and, on the declaration of war, would have large air fleets at their immediate disposal.

The Exhibition, which was opened by Brig.-Genl. Becke,

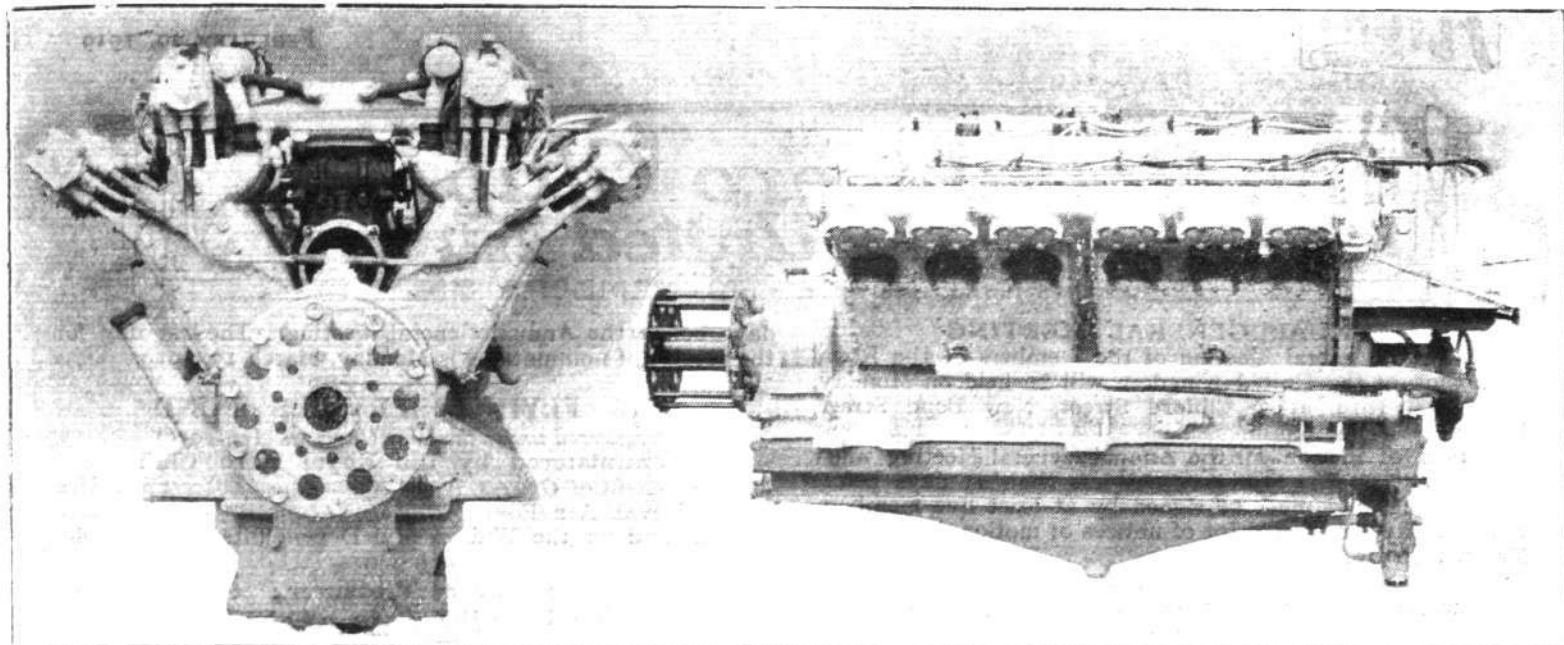
includes a large number of modern British machines, as well as a dozen captured German aeroplanes, and a collection of engines, bombs, etc.

The Largest British Rigid Airship.

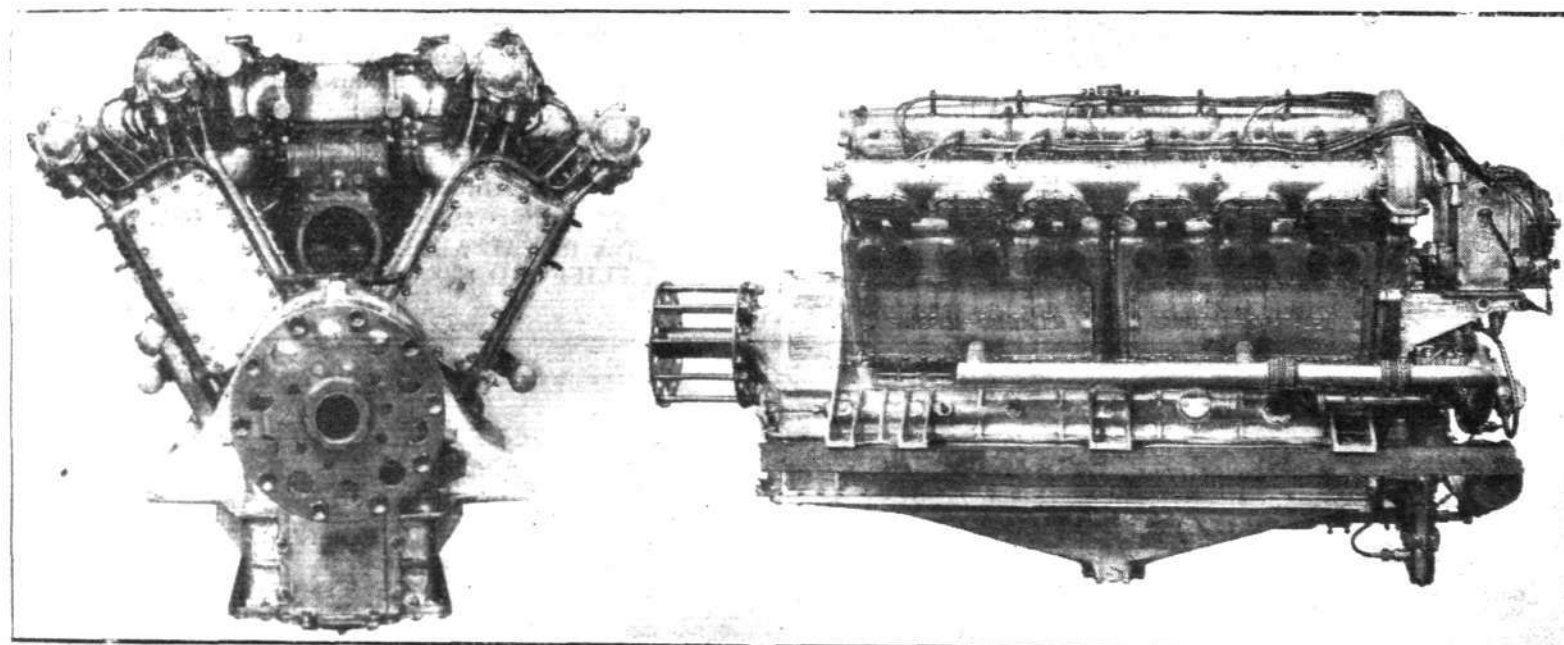
SOME particulars are now available of the R. 33, claimed to be the largest British rigid airship, built by Messrs. Sir W. G. Armstrong, Whitworth and Co., at Barlow, near Selby, which may shortly attempt a cruise to New York and back. The stream-lined envelope is 670 ft. long, and the greatest diameter is 80 ft., the capacity working out at 2,000,000 cubic feet. There are four cars, two amidships, one forward and one aft. The power plant consists of five Sunbeam engines, giving a total horse-power of 1,250, and the speed is expected to range between 80 and 90 m.p.h. Accommodation for the crew of 23 is provided amidships. The designers believe that the airship will be able to make a non-stop run from England to New York and back, and it is stated that in case of fog the airship could remain aloft for three weeks.

Flying in South Africa

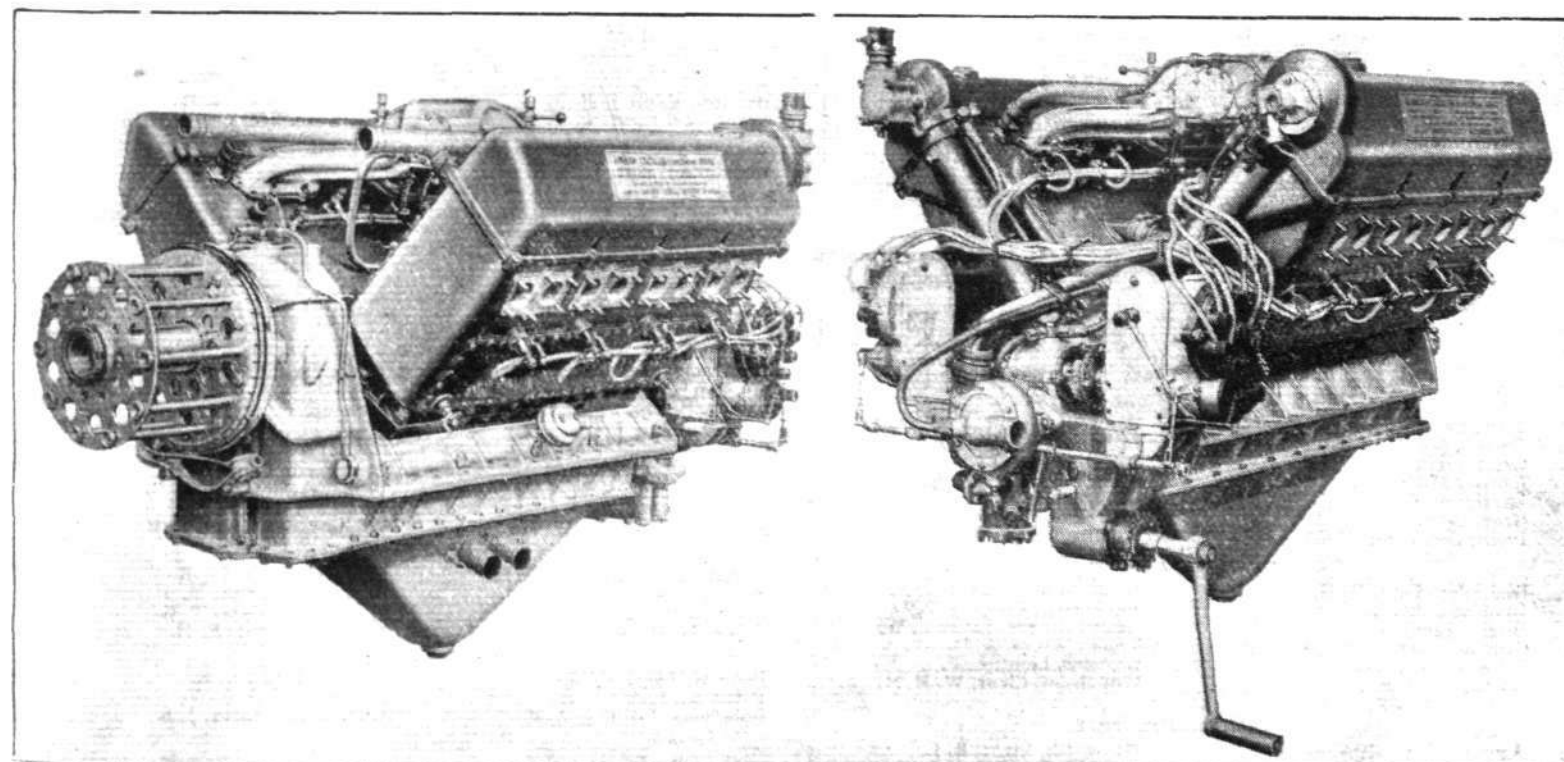
A COMPANY is being formed at Johannesburg to import four aeroplanes for inaugurating air services between Johannesburg and Cape Town and Johannesburg and Durban.



THE SUNBEAM "MAORI" AERO ENGINE.—This engine develops 275 h.p.



The Sunbeam "MANITOU" Aero Engine of 300 h.p.



The Sunbeam "ARAB," which is rated at 200 h.p.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

ANNUAL GENERAL MEETING

THE Annual General Meeting of the Members of the Royal Aero Club of the United Kingdom will be held on Monday, March 31, 1919, at 3, Clifford Street, New Bond Street, London, W. 1, at 6 p.m.

Notices of motion for the Annual General Meeting must be received by the Secretary not less than 21 days before the meeting, and must be signed by at least five members. The last day for the receipt of notices of motion is Monday, March 10, 1919.

Committee

In accordance with the rules, the Committee shall consist of eighteen members. Members are elected to serve for two years, half the Committee retiring annually. Retiring members are eligible for re-election.

The retiring members of the Committee are :—

Lieut.-Col. John D. Dunville, R.A.F.
Lieut.-Col. Spenser D. A. Grey, D.S.O., R.A.F.
Brig.-Gen. Sir Capel Holden, K.C.B., F.R.S.
Lieut.-Col. A. M. Longmore, R.A.F.
Lieut.-Col. F. K. McClean.
Brig.-Gen. E. M. Maitland, D.S.O., R.A.F.
The Right Hon. Lord Northcliffe.
Lieut.-Col. Alec Ogilvie, R.A.F.
Maj.-Gen. Sir Godfrey M. Paine, K.C.B., M.V.O.

Any two members of the Club can nominate a member to serve on the Committee, provided the consent of the member has been previously obtained. The name of the member thus nominated, with the names of his proposer and seconder, must be sent in writing to the Secretary not less than fourteen

days before the Annual General Meeting. The last day for the receipt of nominations is Monday, March 17, 1919.

THE FLYING SERVICES FUND

(Registered under the War Charities Act, 1916)

Administered by the Royal Aero Club

For the benefit of Officers, Non-Commissioned Officers and Men of the ROYAL AIR FORCE who are incapacitated on Active Service, and for the Widows and Dependents of those who are killed.

Honorary Treasurer :

The Right Hon. LORD KINNAIRD.

Committee :

Lieut.-Col. T. O'B. HUBBARD, M.C., R.A.F. (Chairman).
Mr. CHESTER FOX.
Lieut.-Col. HARCOURT G. GOLD, R.A.F.
Lieut.-Col. C. E. MAUDE, R.A.F.
Brig.-Genl. R. H. MORE, C.M.G., R.A.F.

Secretary :

Lieut.-Com. H. E. PERRIN, R.N.V.R.

Bankers :

MESSRS. BARCLAYS BANK, LTD., 4, Pall Mall East, London, S.W. 1.

Subscriptions

Total subscriptions received to Feb. 18th, 1919 £ 14,839 s. 18 d.

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary.

THE ROLL OF HONOUR

Published January 27

Killed

Gilpin, Sec. Lieut. R. R. Graham, Lieut. W. E.

Died of Injuries

Elliott, Sec. Lieut. A. E.

Died

Gotch, Lieut. G. W. Terry, Lieut. H.

Mower, Sec. Lieut. J. B.

Published February 5

Killed

Bissell, Lieut. L. N. Morris, Lieut. J. C.

Croudace, Lieut. H. Wood, Sec. Lieut. J. H.

Gardner, Sec. Lieut. J. H.

Died

Barnett, Sec. Lieut. T. W. Gray, Sec. Lieut. A. C.

Died of Injuries

Masters, Lieut. E. H.

Published February 7

Killed

Baldwin, Capt. C. L. Woolhouse, Sec. Lieut. L. G.

Blain, Lieut. C. W. Yorke, Lieut. F.

Humphrey, Sec. Lieut. J. A.

Died

Finch, Lieut. R. E. Rawlinson, Lieut. P. I.

Owen, Lieut. T. J.

Published February 10

Cadets Killed

Barnebrooke, A. Heffernan, M. J. Reid, C. G.

Published February 12

Killed

King, Capt. C. F. Mitchell, Sec. Lieut. J. T.

Lloyd, Sec. Lieut. F. Nichols, Lieut. E.

Previously Missing, now reported Killed

Middlecote, Lieut. E. W. A.

Died of Injuries

Chambers, Sec. Lieut. J. H.

Died

Rose, Capt. A. W.

Published February 14

Killed

Barstow, Capt. J. E. J. Hoistead, Lieut. G. W.

Grant, Sec. Lieut. P. T. Hitchcock, Sec. Lieut. A. E.

Previously Missing, now reported Killed

McCallum, Lieut. J. R. R. G.

Died

Henderson, Sec. Lieut. L. H. Robinson, Capt. W. Leefe, V.C.



REPATRIATED

The following officers of the R.A.F. have been repatriated :—

Published February 4.

Bevington, Lieut. R. J. McEwen, Capt. J. H. F.
Button, Lieut. L. H. Pollard, Lieut. W. H.
Co in, Sec. Lieut. J. B. Schooling, Sec. Lieut. G.
Couston, Lieut. A. Rawson-Shaw, Capt. K.
Dickinson, Capt. T. M. Weld, Lieut. D. S.
Grey, Capt. R. Whitehead, Sec. Lieut. H. R.
Ivens, Sec. Lieut. I. C. Winkler, Lieut. M. H.

Published February 7.

Blakesley, Capt. R. G. Maclean, Sec. Lieut. W. A.
Blandy, Capt. G. K. McPherson, Lieut. J. L.
Blight, Lieut. T. F. Newstead, Sec. Lieut. C. W.
Courtney, Sec. Lieut. W. E. L. Pocock, Lieut. A. D.
Frith, Lieut. R. G. Wheeler, Lieut. L. F.
Hollis, Lieut. A. Whitehead, Lieut. W. H. N.
James, Lieut. R.

Published February 8.

Arnott, Lieut. R. A. Heyworth, Lieut. E. L.
Greenhow, Lieut. M. W. Johnson, Sec. Lieut. J. W.
Haig, Lieut. F. W. Kemp, Lieut. H. T.
Heppell, Sec. Lieut. P. F. Lesson, Lieut. D.

McCulloch, Sec. Lieut. A. F. G.
Mitchell, Lieut. H. B.

Ordish, Sec. Lieut. B. W. A.

Published February 10

Barnes, Lieut. J. D. Morse, Lieut. T. W.
Bousfield, Lieut. J. K., M.C. Read, Lieut. L.
Feez, Lieut. C. M. Rushworth, Capt. H. M.
Garland, Lieut. E. H. Trollope, Capt. J. L. M.C.
Gilbert, Lieut. R. S. Wearne, Lieut. A.
Nicholls, Sec. Lieut. W. H. Wilmott, Sec. Lieut. F. B.

Published February 12

Bodley, Sec. Lieut. W. G. L. Kingwell, Lieut. W. R.
Harvey, Lieut. J. B. Kilsby, Sec. Lieut. M. J.
James, Capt. C. E. H., M.C. Mapplebeck, Capt. T. G.
Joyce, Lieut. W. Wingfield, Lieut. E. H.

Published February 14.

Bennett, Lieut. C. D. Sinclair, Lieut. L. R.
Pattison, Lieut. J. R. Smith, Capt. S. C. W.
Robertson, Lieut. J. A. M. Wesson, Sec. Lieut. J. S.

Published February 17

The following officer, who was a prisoner of war in Germany, has been released, and has arrived in England :—
Reece, Sec. Lieut. C. (Ches. R.).

HONOURS

The following is the remainder of the honours published in a supplement to the *London Gazette* of February 8th:—

Awarded the Distinguished Flying Cross

Sec. Lieut. Anthony Jacques Mantle, Sea Patrol. (Aegean).—On October 25, 1918, he led his flight for 20 hours in a successful raid on Constantinople. His formation was attacked by hostile scouts on the journey, but by clever airmanship he succeeded in destroying two enemy machines without incurring loss to his flight. Sec. Lieut. Mantle rendered valuable services previously in the Adriatic, for which he was mentioned in despatches in the *London Gazette* of January 1, 1919.

Lieut. Harold Stanley Ryott Maughan (Australian F.C.). (Egypt).—On October 19, whilst escorting bombing machines, Lieut. Maughan saw an aeroplane of another squadron go down in enemy territory; without hesitation he at once landed, rescued the pilot and observer, and brought them back to our lines, displaying cool courage and presence of mind deserving of high praise.

Maj. Reginald Stuart Maxwell, M.C. (France).—On November 16, on a low bombing raid against a railway station, this officer led his whole squadron to within 100 ft. over the objective, thus enabling them to drop their bombs with the greatest possible effect on the trains, transport, etc., in the station. After dropping these bombs he led the formation against troops, etc., crowded on a main road, causing great confusion and inflicting heavy casualties. His magnificent example inspires all who serve in his squadron. (M.C. gazetted January 1, 1917.)

Lieut. (A. Capt.) John Leam Middleton. (France).—This officer has flown about 220 hours over the enemy lines, and has, with great determination and disregard of personal danger, carried out numerous low-flying bombing patrols, inflicting heavy casualties on enemy troops, transport, guns, etc. He has, in addition, accounted for four enemy machines.

Capt. Bertie Arthur Millson, D.S.C. (France).—This officer has carried out 64 raids at night, displaying at all times great perseverance in reaching the objective and marked gallantry in attack, notably on the night of October 3-4, when he twice raided an important railway junction, dropping his bombs with skill and precision from 800 ft., obtaining direct hits, and causing serious damage. On the night in question no other machine bombed from a height of less than 4,000 ft. owing to the very heavy hostile fire. (D.S.C. gazetted April 17, 1918.)

Lieut. (A. Capt.) John Robert Milne. (Salonica).—As a flying officer and flight commander Capt. Milne has shown the greatest coolness and determination, and has invariably displayed qualities of leadership and command of a very high order.

Sec. Lieut. Conrad Alan Moth. (France.) Lieut. Jewitt Rice Smith. (France).—On the night of November 4-5 these officers started out to bomb a railway station, but after two hours they were compelled to return owing to engine trouble. Obtaining another machine they again set out, although from the weather chart they realised that there was every probability of a gale before morning. Reaching the objective they obtained three direct hits. On the return journey they met a storm and landed at the aerodrome in a 60-miles per hour gale after a flight of six hours and fifteen minutes in addition to the two hours' flight on their first attempt. It is difficult to speak too highly of the fine spirit of determination and devotion to duty displayed by these two officers on this occasion.

Lieut. Ernest Andrew Mustard (Australian F.C.). (Egypt).—During the recent operations this officer has shown exceptional ability as a bomber, obtaining numerous direct hits on railway lines, stations, etc.; extensive damage was caused, and the enemy lines of communication were seriously interfered with. In an aerial combat he forced an enemy aeroplane to land, and destroyed it with machine-gun fire.

Sec. Lieut. Gerald Basil Nicholas. (France).—This officer has carried out 95 night bombing raids, and has displayed marked skill and initiative. He has been extremely successful in low reconnaissances and attacks on ground targets, having twice obtained direct hits on trains at a height of about 800 ft.

Lieut. (A. Capt.) Hedley Francis Nicholls. (France).—This officer has rendered exceptional service on contact patrols, setting a fine example of keenness and courage to his flight and squadron. On October 9 he attacked, with his machine gun, an enemy battery, causing heavy casualties and a general stampede.

Capt. John Hamilton Norton, M.C. (Egypt).—On all occasions this officer displays gallantry and devotion to duty, notably on July 29, when, in co-operation with our artillery, he carried out a shoot against two anti-aircraft pits. On approaching this target Capt. Norton was wounded in the left foot notwithstanding this, he continued the shoot, and succeeded in destroying both pits, thereby putting out of action two hostile guns. (M.C. gazetted May 25, 1917; Bar to M.C., April 22, 1918.)

Sec. Lieut. A. Lieut.) Wilfred Laurence Falkiner Nuttall. (France).—This officer has shown marked devotion to duty and disregard of danger in carrying out low reconnaissances over the enemy lines. These have been for the most part in very unfavourable weather, but in spite of this he has consistently shown great determination in obtaining the required information as to the position of the enemy troops, and has pushed his observations well forward in face of heavy hostile fire.

Lieut. Maurice Alexander O'Callaghan. (France).—This officer has been conspicuous for his excellent work on contact and photographic patrols. Subjected frequently to heavy hostile fire, and handicapped by adverse weather conditions, his reports have invariably been accurate and of great value. On October 8, when on photography duty, he was attacked by seven scouts. In the combat that ensued he crashed one of these, but the remainder, pressing home their attack, forced his machine down to crash in "No Man's Land," Lieut. O'Callaghan being wounded. He and his observer made their way to our lines after dark.

Lieut. Harold Oldham. (Egypt).—A gallant and able officer, who has done continuous good work, especially on contact patrols, frequently under difficult conditions. On September 22, in spite of clouds 500 ft. above the hills and in face of heavy hostile fire, Lieut. Oldham reached his objective and rendered a valuable report.

Sec. Lieut. William Arthur Owens. (France).—A gallant and determined officer, who is conspicuous for his skill in aerial combats. He has accounted for five enemy machines.

Lieut. Louis Henry Pakenham-Walsh. (Sea Patrol, Mediterranean).—As an observer officer he rendered valuable services in obtaining photographs of the enemy's position at Beirut, and also as a "Spotter" for the French cruiser *Régain* off the Palestine coast, near the Wadi Hesi. During the performance of these duties he was regularly exposed to hostile anti-aircraft fire and very frequently to attacks from the enemy's fast aeroplanes. Lieut. Pakenham-Walsh subsequently rendered gallant service in the attack on the *Goeben* on January 28, 1918, in the Dardanelles.

Lieut. William Eusace Palk. (France).—On November 4, after bombing enemy troops and transport, this officer attacked, from a very low altitude, two companies of enemy infantry, turning their orderly retirement into a rout. On numerous occasions the damaged state of his machine has borne

testimony to his boldness in pressing home his attacks on various ground targets.

Lieut. Carrick Stewart Paul (Australian F.C.). (Egypt.) Lieut. William James Alexander Weir (Australian L.H. and Australian F.C.). (Egypt).—Lieut. Paul is a gallant and skilful pilot, who has been very ably assisted by his observer, Lieut. Weir. These officers have shown great initiative in attacking ground objectives on numerous occasions, notably on August 14, when, in face of intense hostile fire, they, at a very low altitude, attacked bodies of enemy cavalry, causing heavy casualties. They have also displayed great courage and skill in air combats, having destroyed four enemy aircraft.

Lieut. (A. Capt.) James William Pearson. (France).—On October 26, while leading a patrol, this officer observed a formation of enemy scouts. Diving to the attack, he engaged one and drove it down out of control. He then attacked a second, which he drove down to crash. In all he has accounted for seven enemy aircraft, setting at all times a fine example of skill and courageous determination.

Lieut. (A. Capt.) George Shepherd Peffers. (France).—A courageous and determined officer. On September 18, flying for over three and a-half hours in low cloud and rain, he obtained information as to the advance of our Tanks and infantry when all others had failed. While employed on this duty he attacked and silenced a gun which was shelling our Tanks.

Lieut. George Clifton Peters (Australian F.C.). (Egypt).—Lieut. James Hamilton Traill (Australian F.C.). (Egypt).—On August 24 Lieut. Peters with Lieut. Traill as observer, in company with another machine, attacked seven hostile aeroplanes; they succeeded in crashing two and drove down a third out of control. This is only one instance out of many in which these officers have displayed marked skill and gallantry in attacking and destroying enemy aeroplanes. Their keenness and devotion to duty in aerial combats and in attacking ground targets sets a fine example to others.

Sec. Lieut. Harley Phillips. (France).—An officer of marked courage and perseverance who invariably completes the task allotted him, however difficult. He has displayed conspicuous bravery in carrying out photographic and other reconnaissances, and in attacking ground targets in face of severe hostile fire.

Lieut. George Ebben Randall. (France).—A brave and resourceful flight commander who has, within the last four months previous to November 11, led 71 offensive patrols. On November 10, engaging a superior number of enemy aircraft, he himself shot down two, and the remainder were driven off by his flight. In addition to the foregoing he has four other enemy machines to his credit.

Sec. Lieut. (Hon. Capt.) Alexander Cecil Rankin, M.C. (Italy).—A most skilful and gallant observer, who carried out numerous contact patrols during recent operations, frequently at very low altitudes, his reports being most careful and accurate. He has set a high standard of efficiency in photographic and reconnaissance work, allowing no difficulties to deter him from carrying out his objective. (M.C. gazetted September, 1916.)

Lieut. Henry Coyle Rath. (France).—A bold and resolute fighter in the air who has six enemy aeroplanes to his credit. On October 14 he, with three other machines, engaged a large number of enemy scouts; five were shot down, Lieut. Rath destroying two.

Lieut. (A. Capt.) William Ernest Reed. (France).—A brilliant and skilful scout leader. On October 29, although seriously handicapped by clouds, he led a successful patrol over the enemy lines. Attacking a large formation of enemy machines, his own formation accounted for five, he himself destroying one and driving down another out of control. In addition to these he has to his credit three other enemy aircraft.

Lieut. (A. Capt.) Robert William Reeve. (Egypt).—An officer of outstanding merit, whose gallantry and reliability are proverbial. On September 19 he made four flights, attacking hostile troops with machine-gun fire at a low altitude, displaying marked courage and disregard of danger. The information he brought in of the enemy positions was of the greatest value.

Capt. George Hancock Reid, Sea Patrol. (North Sea).—As pilot of a Short seaplane he was engaged on a raid on Zeppelin sheds in Schleswig-Holstein on March 25, 1916, in which he displayed great courage, ability and resource under the most trying circumstances, which included prolonged flying in a snowstorm and immersion for over three hours in the sea.

Lieut. (A. Capt.) George Raby Riley, M.C. (France).—An officer who shows the greatest dash and gallantry in leading low-bombing and defensive patrols. On September 27 he obtained two direct hits with bombs on an enemy balloon on the ground, which set it on fire. Later he attacked another balloon in the air, shooting it down in flames. (M.C. gazetted September 16, 1918.)

Capt. James Milne Robb. (France).—This officer has destroyed seven enemy aircraft, and under his brilliant leadership his patrols have accounted for numerous others. On October 13 he attacked and silenced three hostile howitzers which were in action.

Capt. Charles Robinson Robbins, M.C. (France).—In contact patrols, artillery co-operation, and photographic reconnaissances Capt. Robbins has shown marked skill, energy, and perseverance. On November 4, in a counter-attack patrol, he was conspicuous for his courage, flying at a very low altitude in face of intense hostile fire, and dispersing a body of enemy infantry, his machine being riddled with bullets. (M.C. gazetted January 1, 1917.)

Capt. Gordon Blews Robotham. (France).—This officer is conspicuous for the skilful handling of the balloon sections under his command. Since August 8 he has advanced his two balloons over 50 miles, despite numerous obstacles, and has succeeded in maintaining at all times close touch with the operations, although frequently subjected to severe shell fire. Capt. Robotham has carried out 330 successful shoots in co-operation with our artillery.

Lieut. (A. Capt.) Alfred Clifford Sanderson. (France).—On November 5 this officer set a fine example of determination and devotion to duty. In pouring rain and at a height seldom over 200 ft., he carried out a reconnaissance of the Army front, locating the enemy forces by drawing their rifle and machine-gun fire. The information thus obtained proved of the utmost value.

Lieut. (A. Capt.) Harvey Clinton Senior. (France).—This officer has carried out over 100 night bombing flights, and he has been conspicuous for his gallantry and disregard of danger. On the night of September 28-29 he was detailed to carry out an important reconnaissance of the Army front. Flying very low, he was enabled to make a very complete and exhaustive report. During the flight he obtained direct hits on an ammunition dump, causing a big and prolonged explosion.

Lieut. Evander Shapard. (France).—On November 4, in low clouds and heavy rain, this officer led his patrol to attack enemy troops on the ground. Descending to so low an altitude that his machine was marked by his own bombs, he attacked a dense concentration of enemy troops and transport in face of heavy fire at point-blank range. He has accounted for six enemy aircraft, and inspires the greatest confidence in his patrol by his intrepid daring and resource.

Lieut. Stanley Maurice Sharpe. (Salonica).—A brave and capable officer

who has carried out many valuable long-distance photographic reconnaissances with marked success, invariably displaying great keenness and courage.

Lieut. John Alexander Shearer. (France).—Always keen and eager to ascend, however bad the weather, this officer sets a very high example of devotion to duty. He has taken part in over 160 successful shoots in the last five months, and has obtained for the various formations concerned much valuable information.

Lieut. Thomas MacMillan Shields. (France).—This officer has shown consistent courage and powers of observation when on contact patrols, having on numerous occasions rendered most valuable reports as to the positions of our own and enemy troops. He has also done excellent photographic work. When engaged on the latter service he was, on October 8, attacked by nine Fokker biplanes; one of these was driven down out of control. Further observation being impossible owing to the presence of these aeroplanes, he was compelled to retire, which he successfully accomplished, displaying marked skill in eluding the enemy.

Lieut. William Sidebottom, 203rd Squadron. (France).—This officer has carried out numerous offensive and low bombing patrols with courage, skill and judgment. He has also proved himself a bold and resolute fighter in aerial combats, having nine enemy machines to his credit.

Lieut. Harold William Skinner. (France).—This officer has flown about 500 hours on active service, and on all occasions has shown fearlessness in action against the enemy. During recent battles he has rendered conspicuous service, engaging troops, transport, guns, etc., from very low altitudes, and obtaining many direct hits on ground targets with bombs. He has destroyed four enemy machines.

Lieut. (A. Capt.) Francis Ryan Smith, M.C. (Australian F.C.). (France).—This officer combines high individual enterprise and determination with exceptionally able leadership. These qualities were conspicuous on October 14 when, leading a patrol of five machines, he saw a formation of 12 Fokker biplanes above him. Relying on the co-operation of another higher formation of Bristol machines, he deliberately manoeuvred his formation into a disadvantageous position in order that our higher patrol might be able to attack the enemy while the latter's attention was concentrated upon destroying his, Lieut. Smith's, formation. The stratagem was entirely successful, with the result that two enemy machines were destroyed and two others were believed to crash. The Fokkers were then reinforced by eight more machines, and in the ensuing combat Lieut. Smith shot down one in flames, his patrol destroying two others. We suffered no casualties. (M.C. gazetted November 14, 1916.)

Sec. Lieut. (A. Lieut.) Harold Smith. (France).—An officer of high courage and determination. On October 1, in exceptionally inclement weather, he successfully bombed a railway station, being the only officer who reached the objective. On another occasion, when 10 miles over the enemy lines, his pilot fainted and fell over the controls, forcing the machine to a steep dive. Pushing back the pilot off the controls, Lieut. Smith regained control of the machine and brought it safely to our lines.

Capt. Ross Macpherson Smith, M.C. (Australian L.H. and Australian F.C.). (Egypt).—Lieut. Walker Alister Kirk (Australian F.C.). (Egypt).—During the months of June and July these officers accounted for two enemy machines, and they have been conspicuous for gallantry and initiative in attacking ground targets, frequently at very low altitudes. The keenness and fine example set by these officers cannot be over-estimated. (Capt. R. M. Smith's M.C. gazetted May 11, 1917; Bar to M.C., March 26, 1918. The awards of first and second Bars to the D.F. Cross are also announced in this Gazette.)

Sec. Lieut. William Watson Smith. (Italy).—This officer has shown exceptional keenness and efficiency as an observer. He has taken part in numerous reconnaissances, and his reports are invariably clear and accurate, containing valuable information which has proved of great assistance in our recent operations.

Lieut. (A. Capt.) Neil Reitz Smuts. (France).—During recent operations this officer has displayed marked courage and initiative in attacking ground targets from low altitudes, inflicting heavy damage on the enemy. On September 28 he demolished at least four gun teams and limbers, causing very heavy casualties among the personnel and horses.

Capt. Frank Ormond Soden. (France).—A bold and skilful officer who has accounted for three enemy aeroplanes and two balloons during recent operations.

Lieut. (A. Capt.) John Speaks. (France).—A gallant and courageous officer. On October 8 he attacked, from a height of 100 ft., an enemy balloon on the ground, nine miles over the line, and set it on fire. Later, seeing a train, he descended to 50 ft. and fired at it till it stopped. He then attacked and scattered horse transport, causing great confusion; and before finishing his patrol Lieut. Speaks bombed a hostile town.

Capt. (A. Maj.) Herbert Victor Stammers. (France).—On September 18 this officer rendered very gallant and meritorious service in carrying out an aerial reconnaissance at a low altitude over the enemy lines during our attack. The reconnaissance was rendered most difficult by our smoke screen, and during the whole flight Maj. Stammers was subjected to heavy machine-gun fire and aerial hostility. Despite this, with unflinching courage, this officer persevered, and was enabled to submit a most valuable report to corps headquarters.

Lieut. William Steele. (Egypt).—On September 17 this officer gallantly landed and rescued two officers who were compelled to land behind the enemy lines. Between that date and September 23 Lieut. Steele led and took part in a number of very successful bombing raids, and, although wounded in the hand on September 19, he remained on duty.

Lieut. Robert Sterling. (France).—Sec. Lieut. James Owen. (France).—On October 1, when on contact patrol, these officers displayed marked gallantry and endurance. Flying at altitudes from 500 to 1,000 ft. for three hours, they successfully located the enemy defence lines. Frequently attacked by machine-gun fire from the ground, they never refused to engage. Having obtained the information required, they attacked enemy transport that was crowded along a certain road, continuing the attack as far as 7,000 yards behind the enemy lines.

Capt. John Heron Storey. (Egypt).—A bold and courageous officer, who has rendered exceptional service on artillery and reconnaissance work. On September 11, whilst reconnoitring, his observer was wounded and his machine badly damaged by a direct hit from an anti-aircraft gun. Capt. Storey succeeded in bringing his machine back, and at once proceeded to complete his reconnaissance in another machine, thereby displaying devotion to duty of a high order.

Sec. Lieut. Frank Thomas Scott. (France).—This officer has completed 118 hours' service flying, and has taken part in many successful bombing raids, displaying marked keenness and courage, notably on October 4, when, three leaders having been forced to fall out owing to engine trouble, he assumed the leadership of a bombing raid on a railway siding, although at that time his machine was badly damaged by anti-aircraft fire. He led the formation over the objective with such excellent judgment that seven direct hits were obtained and considerable damage done.

Lieut. (A. Capt.) Charles Sutherland. (France).—The services rendered by this officer on contact and reconnaissance patrols during recent operations are deserving of high praise. Subjected at times to severe hostile fire, handicapped by adverse weather conditions and by our own smoke barrage, Capt. Sutherland allows no difficulties to interfere with the carrying out of his allotted task, invariably bringing back valuable and accurate reports of the positions

of our own and enemy troops, which have been of the greatest assistance in our operations. He sets a fine example of steady devotion to duty.

Lieut. (A. Capt.) Robert Bruce Sutherland (Can. Local Forces). (Egypt).—This officer has done very valuable work during the last year on this front. Between September 17 and 23 he was conspicuous for his gallant and brilliant leadership.

Lieut. (A. Capt.) Ronald Sykes, 201st Squadron. (France).—An excellent patrol leader, who displayed marked gallantry on September 27. While engaged in dropping bombs on enemy infantry in a sunken road he was attacked by four enemy aeroplanes. Out-manoeuvring them, he retired west. As soon as the hostile aeroplanes had withdrawn, he returned and fired a number of rounds into the infantry at 200 ft., causing many casualties. He then dived on another party of 15, who became so demoralised that they surrendered to one of our men.

Sec. Lieut. Leslie Walter Thres. (Italy).—A very keen and reliable pilot, who has done excellent work in co-operation with our artillery. The success he has achieved in this service has been largely due to his unflinching perseverance and devotion to duty.

Sec. Lieut. George Irving Thomson. (France).—On November 6 the machine in which this officer was flying was hit by a shell and the left aileron control shot away. At once it began to fall completely out of control. At a height of 500 ft. Sec. Lieut. Thomson, with fine presence of mind and contempt of danger, climbed on to the right-hand lower plane, thus enabling the pilot to bring the machine on an even keel and to land safely in our lines.

Lieut. Albert Victor Tonkin (Australian F.C.). (Egypt).—A gallant and determined officer who, in various engagements, has destroyed two enemy aircraft and driven down seven others. During recent operations he has been conspicuous for his boldness in attacking hostile troops on the ground. On three occasions Lieut. Tonkin has been forced to land beyond our lines. On one of these, his machine being riddled with bullets, he was taken prisoner, but was subsequently recaptured by our advancing troops.

Lieut. (A. Capt.) Thomas Cathcart Traill. (France).—An officer of marked skill and bravery, who has shot down three enemy machines and seriously damaged a fourth. On October 23 his machine accidentally collided with one of ours at a height of 7,000 ft., and a part of the left plane was carried away, the machine being thereby rendered out of control. With great presence of mind Capt. Traill ordered his observer to climb out and so directed him to balance the machine which enabled him to obtain partial control. Displaying rare skill and determination, he managed to land his damaged machine safely.

Lieut. Philip Murray Tudhope (France).—On October 18 this officer displayed marked presence of mind and initiative. Seeing an enemy battery proceeding along a road towards a town which he knew was held by our troops, Lieut. Tudhope descended to a low altitude to accelerate its progress. So successful was this manoeuvre that the leading gun was driven into the hands of our infantry and captured; the remainder wheeled about and retired, pursued by this officer.

Lieut. Kenneth Russell Unger. (France).—A gallant and skilful officer. On October 30, separated from his patrol owing to engine trouble, he was attacked by seven Fokkers; undaunted by the odds against him, he, without hesitation, engaged them, and, by skilful manoeuvring, shot one down to crash. He has accounted for nine enemy aeroplanes and one kite balloon.

Sec. Lieut. Reginald Charles Van Der Ben, M.C. (Egypt).—During recent operations this officer's reconnaissance work has been invaluable in keeping touch with the advanced cavalry and in reporting the disposition of the enemy. Sec. Lieut. Van Der Ben is a keen and zealous officer, always ready to volunteer for any service requiring quick initiative and daring. (M.C. gazetted September 24, 1918.)

Lieut. (A. Capt.) Henry Edward Walker, M.C. (Egypt).—A gallant and courageous officer who has served continuously on the front for twelve months, during which period he has shot down several enemy machines. Throughout recent operations his bombing has been exceptionally accurate, a large percentage of direct hits on transport, etc., being obtained. (M.C. gazetted September 16, 1918.)

Lieut. (A. Capt.) John McDonald Walker. (France).—On October 9, during an artillery patrol, this officer was, on two occasions, attacked by eight and two Fokker biplanes in succession. Displaying marked courage, he drove off these attacks and continued his patrol far into the enemy country, engaging troops and transport from a low altitude with bombs and machine-gun fire. On another occasion when on patrol he was attacked by seven enemy machines which he drove off, and most successfully completed his patrol.

Capt. John Banks Walmsley (Indian Army). (Salonica).—A resolute and gallant officer and a most efficient flight leader. On September 4, when on contact patrol, his machine was set on fire; his observer having extinguished it, Capt. Walmsley descended to 500 ft. in order to attack the enemy trenches. His engine was again hit and set on fire, but he succeeded in bringing the machine home, thus displaying marked skill and presence of mind.

Maj. Andre Adolph Walser, M.C. (France).—A brilliant and exceptionally able squadron commander who, by his unsparing efforts and his fine personal example, has raised the morale of his squadron to a very high level. The comprehensive and detailed information obtained by Maj. Walser in the large number of low reconnaissances he has conducted has proved of the greatest value to his corps. (M.C. gazetted November 14, 1916.)

Lieut. Kenneth Bowman Watson. (France).—On October 28, when on offensive patrol, this officer took part in an engagement between six of our machines and 22 Fokkers. In the combat that ensued four of the latter were destroyed, Lieut. Watson accounting for one. In addition to the foregoing he has four other machines to his credit.

Awarded the Distinguished Flying Medal

49701 Sergt.-Mech. Charles Beeks. (Egypt).—This non-commissioned officer observer displayed the greatest courage and keenness during recent operations. Untiring and efficient in his devotion to duty, he is of the greatest assistance to the officers under whom he serves.

2834 Sergt. Mech. Thomas Dowsett. (Salonica).—During the operations, August to October, 1918, this pilot was engaged in more than 100 bombing raids on the 16th Corps front, on several occasions taking part in three flights, and sometimes four, in one day, displaying courage and keenness at all times.

201343 Mas.-Mech. Richard Mullins. (Sea Patrol, North Sea).—As observer in a Short seaplane during a raid on Zeppelin sheds in Schleswig-Holstein on March 23, 1916, he rendered valuable services, displaying marked courage, initiative and resource in this hazardous undertaking.

217050 Sergt.-Mech. (Obsr.) William Parnell Murphy. (Independent Force, France).—During sixteen months this non-commissioned officer has acted as observer on 38 night bombing raids, showing at all times exceptional keenness and enthusiasm. His bombing, shooting and observations have been brilliant, and his ability in navigating his machine to and from the objective has been marked.

203056 Corpl.-Mech. Albert Arthur Parker. (France).—This non-commissioned officer has rendered exceptionally good service as bomber and observer, displaying utter fearlessness and disregard of danger when exposed to heavy hostile fire.

214791 Sergt. Francis Harry Pritchard. (Sea Patrol, Flanders).—For gallant conduct as an observer on May 28, 1918, in a bombing raid carried out from a height of only 200 ft. on the South Lock Gate of Zeebrugge. It has

since been ascertained that the Lock Gate in question was considerably damaged on this occasion.

19301 Sergt.-Mech. Ernest James William Watkinson. (France).—This non-commissioned officer has over 100 hours' war flying to his credit, and has taken part in 60 bombing raids. He has destroyed one hostile aeroplane, and has proved himself an exceptionally skilful and courageous bomber, notably on October 10, when, flying at a height of about 1,000 ft. under heavy fire from the ground, he directed his bombs with such accuracy that one hit the rolling stock in the station and another hit the transport on the road.

Awarded the Air Force Cross

Maj. William Henry Dyke Acland. M.C.
Lieut. Lewis Edward Best. (Egypt.)
Lieut. Wilfred John Butler. (Egypt.)
Lieut. (A. Capt.) Arthur Leslie Chick.
Lieut. (A. Capt.) Geoffrey Clapham.
Lieut. Robert St. Hill Clarke. (Egypt.)
Lieut. Stanley Victor Cowell. (Egypt.)
Lieut. (A. Capt.) John Cullen (Scot. Horse). (Egypt.)
Capt. Archibald Paul Dickie.
Lieut. (A. Capt.) Charles Kenneth McKinnon Douglas. (France.)
Capt. (A. Maj.) Cyril Herbert Gardner. (France.)
Lieut. Edward Haigh.
Lieut. Sidney Charles Howes. (Egypt.)
Capt. Eric Digby Johnson. (France.)
Capt. Edward Guy Landon.
Capt. (A. Maj.) James McKelvie. (France.)
Capt. George Francis Meager.
Sec. Lieut. (Hon. Lieut.) Arthur James Moody. (France.)
Lieut. George Alfred Morgan. (Egypt.)
Capt. Christopher Musgrave. (Egypt.)
Sec. Lieut. Eric Priest. (Egypt.)
Lieut. (A. Capt.) John Seabrook. (Egypt.)
Lieut. William Arthur Ernest Taylor.
Lieut. (A. Capt.) Cresswell Turner.
Lieut. Richard Butler Wainwright.
Lieut. George Waugh (64th Wing). (Egypt.)
Lieut. (A. Capt.) James John Williamson. (Egypt.)
Lieut. George Harpham Willows. (Egypt.)

Awarded the Air Force Medal

220540 Corpl. Mech. Reginald Bance.
228527 2nd Air-Mech. Frederick William Augustus Barber.
216239 3rd Air-Mech. William Ernest Gordon Beer.
206047 Corpl. Mech. Bertram Bocking.
N224793 Corpl. Mech. John Lancelot Boxall.
201137 Sergt.-Mech. (O.) Edmund Leigh Brown.
217642 Chief Mech. George Thomas Clarke.
225263 3rd Air-Mech. (W.T.) Henry Crisp.
203139 Chief Mech. Benjamin Charles Cunningham.
205780 1st Air-Mech. (O.) Richard Ford.
32511 1st Air-Mech. Thomas Foster.
45733 Sergt.-Pilot Clifford Hare.
220261 3rd Air-Mech. (W.) Frederic George Hayward.
202624 Corpl.-Mech. Arthur William John.
212339 Sergt.-Mech. Henry James Leech.
212030 1st Air-Mech. (E.) Reginald Frank Nailer.
218591 Sergt.-Mech. (O.) George Thomas Newbold.
15628 Mas. Mech. Richard Griffith Owen.
517 A. Chief Mas. Mech. Herbert Howard Perry.
N218371 Chief Mech. Charles Regan.
213504 3rd Air-Mech. Reginald James Rook.
234878 2nd Air-Mech. (W.T.) Leslie Arnold Shepperson.
200468 Mas. Mech. George Hall Skinner.
5570 1st Air-Mech. John Howlett Smith.
206270 Corpl.-Mech. (E.) Sydney James Soanes.
216153 Sergt.-Mech. Robert Tomlins.
211809 2nd Air-Mech. Joseph William Trevelyan.
213509 3rd Air-Mech. Jack Walker.
19564 Sergt.-Mech. William Philip Williams.

Awarded the Meritorious Service Medal

78866 Sergt. Clerk S. B. Ayling. (Mesopotamia.)
32549 Sergt. Clerk A. Clarke. (Mesopotamia.)
78867 Sergt. Clerk G. Downs. (Mesopotamia.)
3983 Chief Mech. P. W. Evans. (Mesopotamia.)
7245 1st Air-Mech. J. H. Goddard. (Mesopotamia.)
266619 Pte. L. A. Godfrey. (France.)
28834 Sergt.-Mech. J. Kingzett. (Mesopotamia.)
18683 Chief Mech. H. S. Morris. (Mesopotamia.)
44002 1st Air-Mech. J. B. Murray. (France.)
28571 Chief Mech. T. A. Rhaney. (Mesopotamia.)
18199 Corpl. E. T. F. Smith. (Egypt.)

CORRECTIONS

The undermentioned officers were awarded Decorations as announced in *London Gazette*, No. 30989, dated November 2, 1918. Their correct descriptions are as specified below:—

Capt. (A. Maj.) Claude Russell Cox, A.F.C. (Manch. R.).
Maj. (A. Lieut.-Col.) Howard Lister Cooper, A.F.C.
Maj. Frederick Cecil Baker, A.F.C. (D.C.L.I.) (since awarded D.F. Cross in addition to the Air Force Cross).
Capt. Llewellyn Edwards, A.F.C. (No. 12 Group).
Lieut. James Leybourne Smith, D.F.C. (Aust. F. Corps.).

AWARDS OF FOREIGN DECORATIONS.

His Majesty the King has granted unrestricted permission for the wearing of the undermentioned decorations, conferred on the officers and other ranks indicated, for valuable services rendered in connection with the War:—

ROYAL AIR FORCE

CONFERRED BY THE GOVERNMENT OF THE FRENCH REPUBLIC

The Legion of Honour, Croix de Chevalier

Lieut.-Col. (A. Col.) Robert Hamilton Clark-Hall, D.S.O.
Maj. Oliver George Graham Villiers, D.S.O.
Lieut. (A. Capt.) George Cecil Gardner, D.F.C.

Awarded the Croix de Guerre

Lieut. William Melville Ackery, D.F.C. (With Star.)
Capt. (A. Maj.) Claude Gordon Beaton. (With Bronze Star.)
Lieut. (A. Capt.) Victor Sydney Bennett (Newfd. Regt.). (With Palme.)
Lieut. Howard Wilfred Clayton. (With Bronze Star.)
Capt. (A. Maj.) George Mitchell Croil.
Lieut. Norman Stuart Dougall. (With Palme.)
Lieut. Hallam Tennyson Randle Ford. (With Star.)
Sec. Lieut. Thomas Hastayne Formby. (With Palme.)
Lieut. (A. Capt.) George Cecil Gardner, D.F.C. (With Palme.)
Lieut. (A. Capt.) Henry Arthur Frank Goodison. (With Star, July 15, 1918.)
Lieut. William Edrington Gray, D.F.C. (With Palme.)
Lieut. (A. Capt.) Marmaduke Langdale Horn. (With Bronze Star.)

Lieut. Arthur Cecil Lester. (With Palme.)
Lieut. (A. Capt.) George Chisholme Mackay, D.F.C. (With Palme.)
Lieut. (A. Capt.) John Robert Milne, D.F.C. (With Palme.)
Lieut. (A. Capt.) George Bernard Mutton.
Maj. Charles Henry Nicholas.
Maj. (A. Lieut.-Col.) Edward Osmond. (With two Palmes.)
Sec. Lieut. John Edward Parke (104th Sqdn.). (With Silver Star.)
Lieut. Frederick William Pickup, D.F.C. (With Palme.)
Lieut. James Reid (65th Sqdn., France). (With Silver Star.)
Capt. John Robinson, D.F.C. (With Palme.)
Lieut. Frederick Stratton Russell, D.S.C. (With Palme.)
Lieut. John Sangster. (With Silver Star.)
Lieut. (A. Capt.) Charles Hodgkinson Smith, M.B.E. (With Palme.)
Lieut. (A. Capt.) Eustace Julian Smyth. (With Palme.)
Lieut.-Col. George Eardley Todd. (With Palme.)
Lieut. Frederick Dudley Travers, D.F.C. (With Palme.)
Maj. William Laurie Welsh, D.S.C. (With Palme.)

Medaille d'Honneur (Silver)

Sec. Lieut. Frederick Tidbury Beer.

Medaille d'Honneur (with Swords, Silver)

5599 Chief Mech. John Tiltman Stokes.

5056 Chief Mas. Mech. Harry Aubrey Weight.

Medaille d'Honneur (with Swords, Bronze)

21316 Corpl.-Mech. Frank Thornton Birkinshaw.

66305 Corpl.-Mech. Frederick John Smith.

1694 Sergt. Ewart Richard Woods.

Medaille Militaire

J3083 Sergt.-Mech. Samuel Eli Allatson.
202615 Sergt.-Mech. Leonard Albert Allen, D.F.M.
218930 A. Corpl. (W.T. Obsr.) Matthew Brown Blackadder.
220547 2nd Air-Mech. (W.T.) William Herbert Brown.
214348 Sergt.-Obsr. Edward Farley.
K12282 Sergt.-Mech. George Henry Lade.
220266 A. Corpl. Ewart Oswald Norris.
203137 Sergt.-Mech. Gilbert Spragg.
232650 Sergt.-Mech. (W.T.) Bernard Edward Guy Taplin, D.F.M.
212468 Sergt.-Mech. John William Walker, D.S.M.
2454 Chief Mech. Thomas Mitchell Yates.

CONFERRED BY THE GOVERNMENT OF ITALY

Order of the Crown of Italy, Officer

Lieut.-Col. Charles Humphrey Kingsman Edmonds, D.S.O., O.B.E.

Order of the Crown of Italy, Cavaliere

Capt. George Francis Meager, A.F.C.

Order of St. Maurice and St. Lazarus, Officer

Lieut.-Col. (A. Col.) Arthur Murray Longmore, D.S.O.

Order of St. Maurice and St. Lazarus, Cavaliere

Capt. John Augustus Barron.

Bronze Medal for Military Valour

Lieut. (Hon. Capt.) Martin George McL. Cahill-Byrne.

Sec. Lieut. (Hon. Lieut.) Stafford Jackson, M.C.

Croce di Guerra

Lieut. Ralph Braithway Beevor.
Sec. Lieut. (A. Lieut.) Arthur Leopold Cockburn.
Lieut. Charles Leslie Cox.
Lieut. Thomas Foster Everitt.
Sec. Lieut. Roy Holmes Foss.
Lieut. Cecil Ernest Gaspar Gill.
Capt. Harold Hindle James.
Sec. Lieut. (A. Lieut.) George Rene Kull.
Lieut. James Scott Lennox.
Lieut. (A. Capt.) Charles Midgley Maud, D.F.C.
Lieut. Harry De Cew McDiarmid.
Lieut. Archibald Lorne McLaren.
Lieut. (A. Capt.) Kenneth Barbour Montgomery, M.C.
Capt. Vincent Washington Hobson Ranger, M.C.
Lieut. Robert Gillespie Reid.
Lieut. Norman Samuel Taylor.
Lieut. Aubrey Freeland White.

CONFERRED BY THE GOVERNMENT OF BELGIUM

Ordre de la Couronne, Officier

Maj. Herbert George Brackley, D.S.O., D.S.C.
Capt. (A. Maj.) Ronald Grahame, D.S.O., D.S.C., D.F.C.
Col. Frederick Crosby Halahan, D.S.O., M.V.O.
Maj. Ernest William Norton, D.S.C.
Maj. (A. Lieut.-Col.) Edward Osmond.
Maj. William Laurie Welsh, D.S.C.

Ordre de la Couronne, Chevalier

Lieut. (A. Capt.) Charles Philip Allen.
Lieut. Norman Stuart Dougall.
Lieut. Stanley Wightman Mountain.
Lieut. Frederick William Pickup, D.F.C.

Ordre de Leopold, Chevalier

Capt. George William Biles, D.F.C.
Capt. Archibald Sydney Cheshire, M.B.E.
Capt. Leslie Pritchard Dunkley Cooper.
Capt. Samuel Denys Felkin, M.B.E.
Lieut. (A. Capt.) Norman Leslie Garstin.
Capt. (A. Maj.) Russell William Gow, D.S.O., D.S.C.
Lieut. (A. Capt.) George Chisholme Mackay, D.F.C.
Capt. John Robinson, D.F.C. (202nd Sqdn.).
Capt. John Romilly Swanston, D.F.C.
Capt. (A. Maj.) Bert Sterling Wemp, D.F.C.

Awarded the Belgian Croix de Guerre

Capt. Edward Ball (late Royal Navy).
Capt. Benjamin Roxburgh-Smith, D.F.C.
Sec. Lieut. Leonard Jepson Skinner.

Ordre de Leopold II, Chevalier

214412 Sergt.-Mech. George Betteridge.
17826 Corpl.-Mech. Arthur Marshall.
7533 Corpl.-Mech. Allen Walker.
10786 Sergt.-Mech. Arthur Henry Woolgar.

Decoration Militaire (Belgian)

43265 Air-Mech. Cecil Bernard Carr.
93513 Sergt.-Mech. John Herbert Hall.
130650 1st Pte. Tom Holdsworth.
129247 2nd Pte. Bertie Herbert Patman.
7345 1st Air-Mech. Francis Archibald Rice.
402609 2nd Corpl. Storeman, Walter Roper.
7958 A. Corpl. Clerk, Charles Robert Shorland.

CONFERRED BY THE GREEK GOVERNMENT

Cross of Commander, Order of the Redeemer

Lieut.-Col. (A. Brig.-Gen.) Francis Conway Jenkins, C.B.E.

Greek Military Cross, Class II ("War Cross")

Capt. Grahame Donald, D.F.C.

Greek Military Cross, Class III

Lieut. Thomas Lowden Palmer.

Lieut. Jarvis Rupert Francis Randell, D.F.C.

Lieut. Harvey Tennant Williams. (Deceased.)

CONFERRED BY THE GOVERNMENT OF THE UNITED STATES OF AMERICA

The American Distinguished Service Cross

Sec. Lieut. Thomas Brierley Dodwell, D.S.O.

Corrections

The descriptions of the undermentioned officers, whose names appeared in *London Gazette*, No. 31098, of January 1, 1919, are now correctly stated:—

Lieut.-Col. Percival Scott Rickcord.

Maj. (A. Lieut.-Col.) Edward Roux Littledale Corballis, D.S.O.

Capt. Thomas Gerald Glyn Bolitho, M.C., D.F.C.

Capt. Francis Neville Halsted, D.S.C., D.F.C.

Capt. (A. Maj.) Harold Spencer Kerby, D.S.C., A.F.C.

Capt. Bertrand Alexander Malet, D.F.C.

His Majesty the King has approved of the undermentioned rewards in recognition of bravery in the field:—

Awarded a Bar to the Military Cross

Lieut. Harry Farquharson Barnes, M.C., 16th Balloon Coy. (France).—During the operations from August 21 to October 1 this officer's balloon was very heavily shelled (one balloon being totally destroyed), and was subjected to attacks by hostile aircraft. Lieut. Barnes, however, kept it well forward, and rendered very valuable assistance to our artillery, showing conspicuous skill and determination throughout. (M.C. gazetted January 1, 1917.)

Awarded the Military Cross

Sec. Lieut. Clifford Thomas Perrins, 45th Balloon Section. (France).—On October 11 this officer displayed marked gallantry and courage. The enemy commenced to shell the camp where Sec. Lieut. Perrins was getting the telephone tailed into position preparatory to moving forward. Twelve men of his party were killed or wounded by the first shell, he himself being slightly wounded. Despite this, and the fact that the enemy kept up a continuous and accurate fire on the position, he, with two non-commissioned officers, continued to attend to the wounded until they had all been removed to a place of safety.

Awarded the Military Medal

for bravery in the field, in France, except where otherwise stated:—

41142 2nd Air-Mech. W. G. Aylward.

20954 Chief Mech. A. Badland.

2679 Chief Mas. Mech. G. H. Currall.

15824 Sergt.-Mech. R. E. Deakin.

402998 1st Air-Mech. W. H. Hearn.

11219 Flight-Sergt. J. Jacobs. (Egypt.)

22074 Corpl. Mech. D. J. Jones.

38377 1st Air-Mech. H. Jones.

67653 2nd Air-Mech. W. J. Kibble.

105647 1st Pte. C. Knevitt.

53023 Corpl. Clerk W. G. Price.

49993 1st Air-Mech. J. S. Simmers.

It was announced in the *London Gazette* on February 12 that the King has been pleased to approve of the following rewards for distinguished services rendered in connection with military operations in the field:—

Military Cross

Lieut. G. A. Hill, 4th Bn. Manch. Regt., attd. R.A.F.

Sec. Lieut. S. G. Reilly, R.A.F.

Lieut. G. G. Tomling, R.A.F.



Casualties

Lieut. COLIN HAMLEY CLIFFORD, R.A.F., youngest son of Mr. and Mrs. Geo. W. Clifford, of Bournemouth and 2, Prince's Chambers, Coventry Street, W. 1, died on February 10 at the R.F.C. hospital, Eaton Square, of pneumonia following influenza.

CHARLES LINNÆUS CUMMING, R.A.F., B.A. Oxon, M.Sc. Montreal, Ph.D. Princeton, only son of Linnæus Cumming, M.A., of Kilsby; near Rugby, was accidentally killed at the age of 30, while flying near Cologne, with the Army of Occupation.

Maj. ALAN DUNLOP-HILL, R.A. and R.A.F., died on February 8 at 55th Casualty Clearing Station, France.

Lieut. BASIL RAHERE GARROD, 1st Loyal North Lancs. Regt., attd. 149th Squadn. R.A.F., youngest and last surviving son of Col. Sir Archibald Garrod, K.C.M.G., A.M.S., of 9, Chandos Street, W., and Wilford Lodge, Melton, Suffolk, died on February 4 at 36th Casualty Clearing Station from pneumonia.

Lieut. RICHARD GIBSON MICHAELSON, R.A.F., youngest son of Mrs. Michaelson, Yewbarrow, Grange-over-Sands, died on February 9, at the age of 24, from pneumonia.

Married

Capt. A. C. ST. CLAIR-MORFORD, M.C., R.M.L.I. (late R.A.F.), was married at St. James' Spanish Place, on February 10, to Miss VICTORIA ALEXANDRINA MARY KIRKPATRICK, only daughter of Col. and the Hon. Mrs. Kirkpatrick, of Kilshannig, Mallow, Co. Cork.

The marriage of Lieut.-Col. ALEXANDER CLEGHORN, R.A.F., elder son of Mr. and Mrs. Alexander Cleghorn, 14, Hatfield Drive, Glasgow, and MORAG, only daughter of Emeritus Professor Archibald BARR, LL.D., and Mrs. Barr, Westerton-of-Mugdock, Milngavie, will take place (leave permitting) in the Bute Hall, Glasgow University, on Wednesday, March 5, at 2 p.m.

Capt. JOHN MELBOURNE MASON, D.S.C., D.F.C., R.A.F., eldest son of the late Mr. and Mrs. Kenyon Mason, was married at St. Mary's, Holly Place, on October 15, 1918, to ALMA, eldest daughter of W. G. FRENCH, of Sydney.

To be Married

The engagement is announced between Capt. CLIVE B. GLYNN, D.F.C., Liverpool Scottish and R.A.F., fifth son of

Dr. T. R. GLYNN and Mrs. Glynn, of Liverpool, and Nerquis Hall, Flintshire, and MARIAN, youngest daughter of Mr. and Mrs. James KING, of Dawlish, Devon, and granddaughter of the late Mr. Joseph Nicholls, of White Hall, Handsworth, and Scavington House, Somerset.

The engagement is announced of Lieut. JOSIAH (PETER) WEDGWOOD, R.A.F., elder son of the late Rev. Josiah Wedgwood, of Norwich, and Mrs. Wedgwood, of Neatishead, Norfolk, and EDITH HELEN, only daughter and younger child of the late Neville E. Maltass, of Westbourne Terrace Road and Harrow, and the late Mrs. Maltass.

Items

Dr. H. D. HAZELTINE, of Harvard University and Emmanuel College, Cambridge, who has been elected to the Downing Professorship of English Law is recognised as one of the leading authorities on the law of the air. Dr. Hazeltine, who was born in 1871, is a graduate of the Brown University, Providence, R.I., and a student of the well-known Harvard Law School, where for a time he was editor of the *Harvard Law Review*. From 1898 to 1905 he pursued his legal studies in Germany, France and England, and in 1906 he became law lecturer at Emmanuel College and later Fellow. In the following year he succeeded Dr. Kenny as University Reader in English Law. He has received the degrees of M.A. and Litt.D. from the University of Cambridge and is a barrister of the Inner Temple.

Sec. Lieut. JOHN D. LIGHTBODY, 204th Squad, was officially reported missing on November 4, 1918. The number of his machine was Camel F 6257. Any information concerning his fate will be gratefully received by J. D. Lightbody, "Ardenlee," Hamilton, N.B.

Anybody who can give information concerning the fates of Capt. HENRY TURNER and Lieut. GEORGE WEBB, is requested to communicate with Mrs. Turner, 41, Lynmouth Road, Sheffield. Capt. Turner, who was flight commander of 103rd Squad, was seen to come down under control in German lines on June 5, 1918, with his pilot. Capt. Turner has since been reported killed, but no news has been received concerning Lieut. Webb.

The will of Maj. ARCHER WILLIAM KEEN, M.C., R.A.F., of Birmingham, who died in hospital in France, intestate, has been proved at £3,098.

AIRSHIPS FROM THE FOUR WINDS

In principle the Aerial Navigation Bill of the Government is all that could be desired at the present moment, always provided the regulations issued and "control" exercised under the plenary powers thereby conferred are reasonably handled, having regard to the vital necessity to the Empire that aviation in its every phase should be promoted and encouraged officially. Abuse for the furtherance of bureaucratic ends would probably lead to chaos. But the fact that in the Bill it is provided that the Act shall automatically cease to exist after January 1 next does not suggest anything but the most generous treatment of this, at present, very delicate problem for this country and the world in general. Its passing through the House is hardly likely to create over-much controversy.

It must, however, be borne in mind that under the Bill, power exists for the authorities to stop, baulk or kill every progressive move in connection with aviation, civilian or otherwise. It is entirely a question of how the power conferred will be exercised. If in the hands of the wrong men, then nothing short of a miracle would enable this country to be at the top in the air. But is there any prospect of such arbitrary and destructive interpretation of the necessities of aviation? Frankly, in our opinion, there is none. The men now in charge are sympathetic to progress, and as chances have to be taken, a year's trial would assuredly bring about a very ugly crash of those responsible for putting up obstacles to the development—especially civilian efforts—which the Nation has a right to demand.

MEM.: April 1 is the date given by Lieut.-Col. W. A. Bristow for commercial flying to begin under legalised conditions.

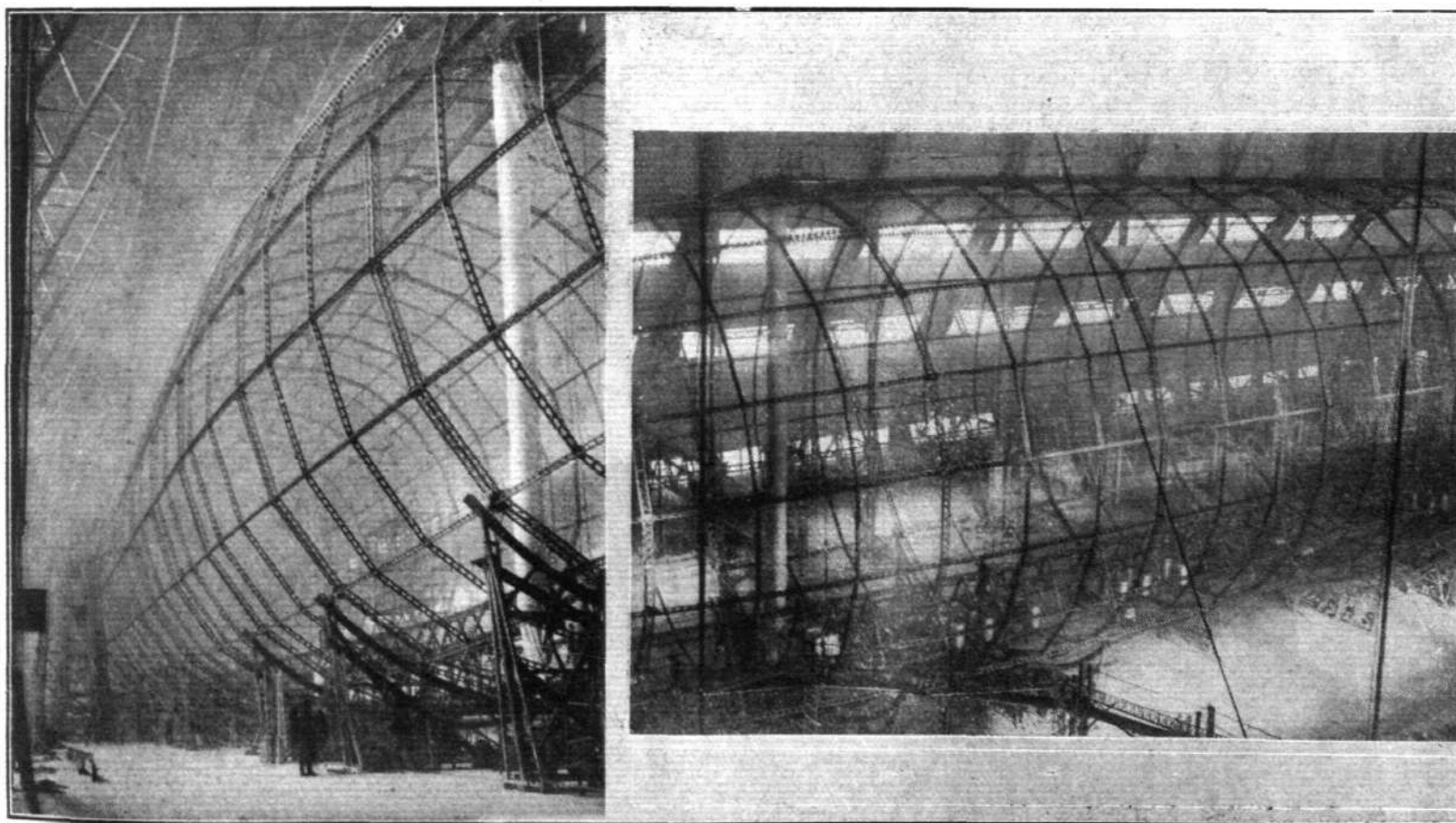
NOTICE that a project for the construction of an experimental airship of the Zeppelin type, which was included in the plans of the U.S. Navy Department when the pending

Appropriation Bill was submitted to Congress, has been eliminated by the House of Representatives. It is, however, hardly done with as yet, and the Naval officers, who were keen to get this provision through, still have hope of its being restored by the Senate. If successful, the idea is to import one of the latest German models, the amount apportioned for the entire proposal running into several millions. With the present great activity in several directions in lighter-than-air craft in this country, we can easily imagine that the promoters' faith in the Senate's wisdom may be well founded.

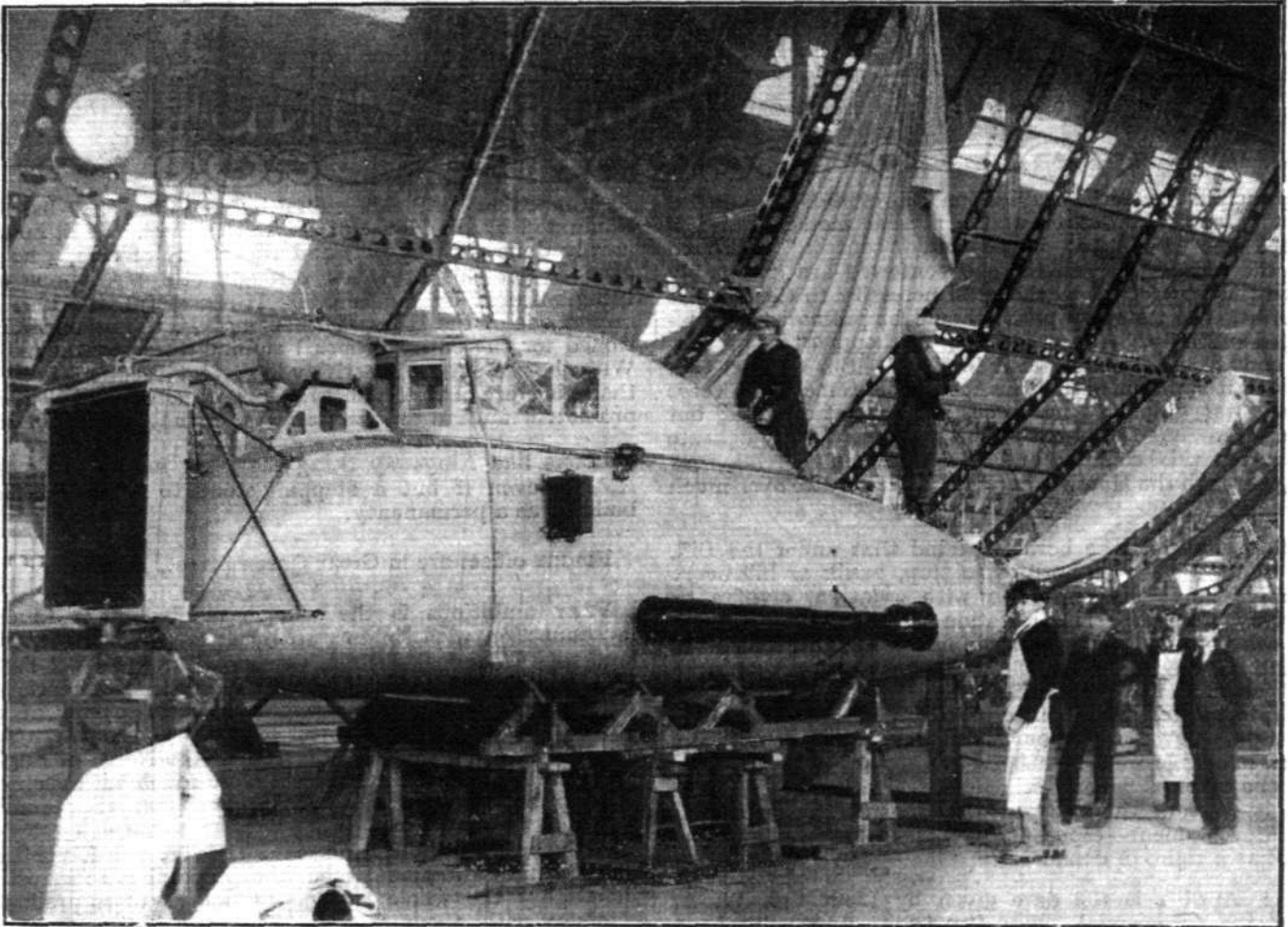
LOOKS like Kingsway being the main future home of the R.A.F., even if but a stepping-stone to a really suitable building as a permanency.

FLIGHT offices are in Great Queen Street, Kingsway.

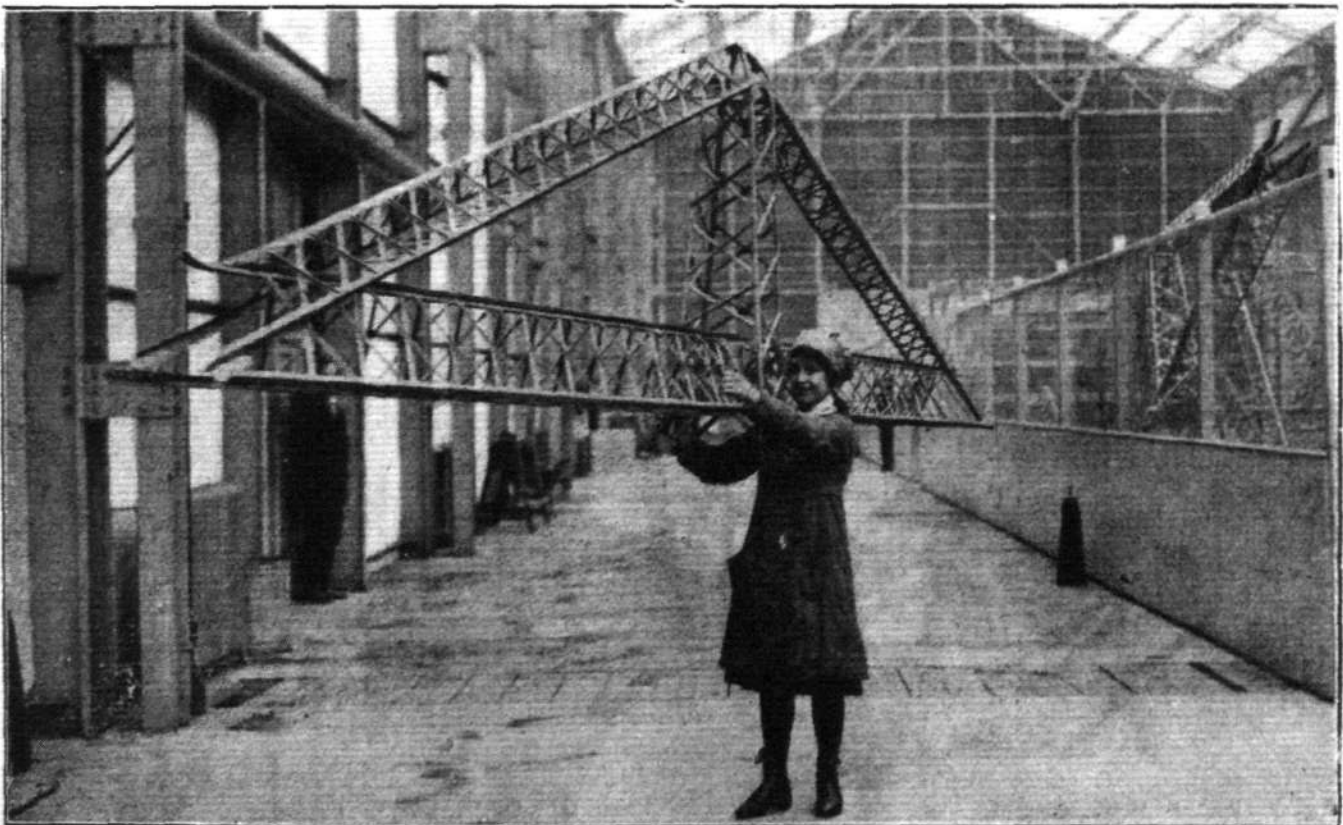
VERY ambitious is the scheme mooted from Liverpool in connection with linking up by means of aircraft, Manxland with Liverpool, Dublin, Greenore, Bangor, Port Patrick, Sillioth, Barrow, Fleetwood, Blackpool, Southport, etc., with intermediate coast services between several of these points. Altogether the project of the Great Northern Aerial Co. thus to bring the health resorts of the North of England, North Wales and of Ireland into close touch with each other is very fascinating reading, and we wish the promoters every success. Moreover they appear to be going to work over the business by legitimate methods as, at a foregathering of about fifty prominent men, the proposal is to investigate thoroughly the whole scheme by means of a preliminary company with about £5,000 capital, and if the results seem to justify going forward with the project, then the main undertaking is to be launched with a capital round about a million. Temporary offices at 1, Vauxhall Road, Liverpool, are already in being and a suggestive map of the districts proposed to be exploited gives a very good idea of the



THE SHORT BROTHERS BRITISH RIGID AIRSHIP—This firm for a long time has been constructing lighter-than-air craft, and in the photographs in this issue of *FLIGHT* are seen some of the main features of the Short monster. Above photograph shows the skeleton frame-work of the airship. Note on the right the spiral tube staircase by which communication is obtained from the gun platform and "cat-walk." On the right side, view of part of the frame-work, the stairway leading to gun platform being also clearly seen in this view.



THE SHORT BROTHERS BRITISH RIGID AIRSHIP.—One of the navigating gondolas complete ready in position for attachment to the airship. The full complement of gondolas is five.



THE SHORT BROTHERS BRITISH RIGID AIRSHIP.—The lightness of the metal employed in the construction may be judged by the assembled portion which is being easily carried by one of the girl employees.

magnitude of the undertaking, the proposed "Flightways" and "Flightdromes" being clearly indicated.

TRULY the Russian Bolshevik crowd are a pretty little lot of scoundrel sportsmen. Having made all women common property, they now further profess to promote equality and democratic rule "for the people" in quaint fashion by a decree of the Soviet Government at Moscow, according to a *communiqué* in the official *Izvestiya*, by which all elected bodies created by the Bolshevik Revolution in the domains of the Ministries of Marine and War, including the Air Service, are abolished, and for them are substituted institutions of the type of those existing under the old régime.

Another decree abolishes the Councils of Railwaymen, and hands their functions over to Commissions nominated by the Government.

A third decree confesses frankly that among the officers of the central and local Bolshevik Administrators there are a large number of former members of the Secret Police and of the gendarmerie, and the decree gives instructions that they shall gradually be got rid of.

■ CAN anarchical tyranny go much further? The whole of our British Bolshies should be shipped across to their Russian spiritual home as speedily as possible, for fear they might miss some of the democratic privileges which their Muscovite brethren appear to be distributing so freely to the Russian people.

■ ■ ■ ANOTHER milestone. Mr. F. Marten Hale, of Bromley, Kent, who states he is the inventor of the "Hale" rifle grenades and aircraft bombs used during the War, claims that he was the first to suggest under-water bombs to the Admiralty. "I did so," he writes, "in a long advisory and explanatory letter, dated November 19, 1914, addressed to the Director of the Air Department. The following is one of the statements contained in my letter:—'With a sufficient number of aeroplanes so equipped with an armament of bombs, the power and danger of the enemy's submarines would be usefully curtailed, if not exterminated.'

"The matter was handed over to the Submarine Attack Committee to pursue with me. This was done and eventually I applied for two patents (Nos. 23,662, December 7, 1914, and 23,787, December 9, 1914). At the request of the Admiralty, by letter dated November 21, 1914, a design was prepared (Drawing No. 248, 9.12.14) by me and submitted to them, in which, following an interview with Admiral Sir Percy Scott on December 6, 1914, a hydrostatic fuze was employed, so that, should my bomb, or depth charge, miss hitting the submarine—awash or submerged—it would still explode at a depth of 30 ft. in the vicinity of the vessel, and thus bring about its destruction. A hydrostatic fuze, or

Red Tape in Paris

It is evident that the British have not a monopoly of red tape. For some time people have been wondering why the aerial post between Brussels and Paris took so long, and the *Intransigeant* has run the trouble to earth. It appears that when the letters arrive in Paris they have to be taken by train to Lille, in order to be checked by the French Postal Control Service, and then brought back by train to Paris!

The Canadian Airways

FOLLOWING on recommendations by the Canadian Aeronautics Advisory Committee, the Dominion Government has sanctioned five airways across the continent. The All-Red route will go from St. John's, Newfoundland, through Quebec, Montreal, Ottawa, Ft. William, Winnipeg, Regina, Calgary and Vancouver to Victoria, B.C. The Sunset Airway will go from St. John's to Halifax, New Brunswick, Quebec, Montreal, Toronto, Port Arthur, Winnipeg, Saskatoon, Edmonton to Prince Rupert. The Hudson Bay Airway will run from Winnipeg to Port Nelson. The Peace River Airway will go from Edmonton to the Great Bear Lake and to Dawson City; while the Dawson Airway will go from Victoria to Vancouver, Prince Rupert and Dawson City.

The Transatlantic Flight

CAPT. HUGO SUNDTSTEDT, who is engaged in assembling a seaplane in Newark Bay, New Jersey, as mentioned in our last issue, has now made a formal entry for the *Daily Mail* £10,000 Transatlantic Prize. This makes the fourth actual entry, the others being a Whitehead entered by Capt. Payze and a Handley Page and a Caproni entered through the Aero Club of America.

Lord Auckland, who arrived in Liverpool recently from

water pressure valve, did not form any part of the inventions as patentable matter, as it was an old and well-known device. The developments of this method of attack commenced with, and continued from, the date of my aforesaid letter of November 19, 1914.



A FLYING HONEYMOON COUPLE.—Recently Major E. L. Williams, R.A.F., was married to Miss Biddy Gibson, daughter of Dr. and Mrs. Gibson, of Cowes, Isle of Wight. The bride and bridegroom after the ceremony and reception left later for their honeymoon journey in an Avro aeroplane decorated with streamers, while a large bouquet of mimosa was attached to the outside of the fuselage. The bride had been in France for two years as a motor driver for the R.A.F. Our photo. shows the bride and bridegroom in their flying attire previous to their departure.

America, stated that he intends to attempt an aerial flight from Britain to the United States next August on a British machine. He expressed the firm conviction that an air journey to America is possible, but thinks the time is not yet ripe for a continuous service between the two countries.

The Cape to Cairo Flight

CAPT. SHORTBRIDGE, R.A.F., has left South Africa to arrange landing grounds at Bulawayo and other places in Central Africa in connection with the flight of Brig.-Genl. Herbert from Egypt to the Cape on a Handley-Page machine. Arrangements have already been completed at Pretoria and Bloemfontein.

"Scientific Management in Industry"

A SPECIAL conference will be held under the auspices of the Industrial Reconstruction Council, on Thursday, February 27, at 5.15 p.m., in the hall of the Institute of Journalists, 2 and 4, Tudor Street, E.C. 4, when an address will be given by Major Pells, R.E. (Assistant Director, Efficiency and Costs Section, Ministry of Munitions), on "Scientific Management in Industry." The lecture will be followed by a discussion. No tickets are necessary.

An Aeroplane Wedding

AFTER the wedding at Cowes, Isle of Wight, of Maj. E. L. Williams, R.A.F., and Miss Biddy Gibson, the bride and bridegroom, on coming out of church, passed through an arch formed by R.A.F. mechanics, with aeroplane spars, propellers, rudders, and elevating planes. Later in the afternoon they proceeded from a convenient ground near the church on their honeymoon in an Avro aeroplane, flying across the Solent, accompanied by a couple of other aeroplanes.

AVIATION IN PARLIAMENT.

Aerial Navigation

In the House of Commons on February 11, notice was given by Maj.-Genl. Seely that a Government Bill embodying temporary provisions for the regulation of aerial navigation would be introduced.

Naval, Military and Air Forces

THE SECRETARY OF STATE FOR WAR (Mr. Churchill) on February 12: I beg to give notice that on an early day I shall ask leave to introduce a Bill dealing with the Naval, Military, and Air Force Services, and to make provision for the maintenance of such Forces of the Crown as may be required to meet the exigencies arising during the year after the termination of the present War, and in respect of the conditions of service of such forces, and other purposes in connection therewith.

The Air Ministry and the War Office

CAPT. WEDGWOOD BENN (in the debate on the Address in reply to the King's Speech on February 12) said: I rise to move, at the end, to add the words:—

"But humbly regrets that no assurance is given that the merging of the Air Ministry and the War Office under one head is but a temporary measure of convenience, inasmuch as to disintegrate the Air Service or subordinate it to the other fighting services is detrimental to the Empire's aerial development."

This is an Amendment intended to protest the necessity for the unity and independence of the R.A.F. The Amendment, you may say, was not put down on the initiative of the members who are supporting it, but was rather provoked by the action of the Government; because, despite the fact that this House has passed the Air Ministry Act setting up a Secretary of State for the Air who is to be co-equal with the Secretary of State for War and the First Lord of the Admiralty, in the construction of the Government the two offices—the War Office and Air Ministry—have been combined under one head, and in the judgment of those who are supporting this Amendment, which is put down in the names of members all of whom have been actively engaged during the War in the R.A.F., the union of the two offices under one head threatens the unity and independence of the R.A.F. It is too late in the day for it to be necessary for me to explain the necessity for an Air Ministry independent of the other Services. That has been decided by this House, and it is based upon the unity which exists among all the Air Services in material and on land and water and in the unity of training, because, except in the final stages, there is no difference in the training of a pilot whether he is to fly a seaplane, an observation machine, or a scout.

In our judgment unless the Air Force is independent it cannot remain united. We consider that on the independence of the Air Force depends entirely the basis on which alone its unity can be preserved. The Minister for War, who is also the Minister for the Air, will be faced with problems like this. About this time of the year Estimates are being prepared. We know what happens. The Departments ask for much more money than the Cabinet is willing to grant, and there is a general series of interviews and representations, and each Department has to cut the coat according to the cloth. We will suppose that a certain amount of money has been set aside for defence purposes, and that the question is whether that money is to be spent, say, on cavalry or on aeroplanes. Which side will he take if such a question comes before him? I believe that a year ago there was a dispute between the two Ministries on the question of the medical service. Anybody who has been in the Air Service knows perfectly well that there is a large field for air medical service, and that the problems of a medical service for the air are really quite different and quite specialised, and are not the same as problems of the War Office. The right hon. gentleman probably agrees with me that there is a case for a separate air medical service. In any case a pledge was given on the subject, and why was it not done during the War? It was not done because the War Office would not agree. If that problem arises again, which side is the right hon. gentleman the Secretary of State for War and Air going to take? But I do not base the case against War Office control of the air even on matters like that, which could be elaborated indefinitely. I say that the whole Army point of view on air subjects is unsound. It is not the air point of view. There is such a thing as an air sense, and persons regard the air in the same way as the sailors regard the sea. That air sense you will never get in people trained only on the land. I have observed matters in the Army and the Navy. I know the sort of thing the Army people want. They want spectacular points, such as "How many Huns have been destroyed to-day?" That is really not the fundamental fact in air warfare, and is really ancillary to the real service that the Air Force renders in observation and defence.

There is also their attitude towards the technical side. The progress of the air, I make so bold to say, depends entirely on mechanics. The Army point of view never gives proper weight to the mechanical side, and to constant improvement in mechanism, by which alone progress can be made. What about the naval side? It was only with the very greatest difficulty that the Air Ministry was formed to include the machines which were under the orders of the Navy. Now there is a very great suspicion in naval circles of the union even to-day. Many of the men on the naval side of the Royal Air Force have been in the Navy. Does not the right hon. gentleman think that they would be a little suspicious when they found that their promotions or rewards had to be decided by the Secretary of State for War? It may be said that these matters of promotions and ribbons are small matters, but soldiers and sailors do not work for money. They work for honour, and they think a great deal of those things. I think the man in the Navy who renders service in the air would be rightly suspicious if he found that such matters have got to be decided by the War Office. In my judgment, when the union took place some mistakes were made. The naval flyers were put into the united Air Force, and the titles selected for them were military. I do not think that was necessary, and I think it was a mistake, because I do not think the military titles, such as colonel, captain, and brigadier, are in the least applicable to the Flying Force. I think it would have been better to select naval titles if the question was one between the Army and Navy, but I do not see why you should not have special terms for the Air Service. Then there is the question of discipline. Discipline in the Air Force was based upon discipline in the Army, and in my judgment that was a mistake also. Of course, during the War Acts had to be adopted *holus-bolus*, because there was no time to go into details, but I do not think that the discipline which is suitable for the Army is necessarily the type of discipline suitable for the Air Service. Personally, I think the Army discipline and the whole penal code in the Army wants revision, and I think its punishments and its ideas are mediæval, archaic, and ineffective, and they are certainly not suited to the peculiar psychology of the airmen. What happens? A number of flying men are in a ship. Even when they were Royal Naval Air Service men there was never that knitting together between them and the ship's company as there was between the whole company itself, and when they became Royal Air Force men the feeling of division became more acute still. The captain of the ship, who exercised a very complete and rather paternal control over the whole ship's company, resented having on board a number of people in a uniform that he did not recognise and subject to a discipline that he did not understand and strongly suspected. That caused a desire

for separation, and that desire, I think would be very greatly increased by the knowledge that those men were under the control of a Minister whose first charge he would suppose must necessarily be the War Office, and not the Air Ministry. Demobilization is now taking place.

The Air officers consist of people, some of whom were soldiers and others sailors before joining the Air Force, while others still entered directly. It is among these that you have the best chance of fostering the real *esprit de corps* of the Air Force, but these are the very people who are being demobilized first, and you have as a result a tendency already set up to leave in the higher positions of the Service the very men whose desire to get away from one another and to get back again to their first love, either the Army or the Navy. You get the sort of thing which, in my opinion, is the worst possible thing for the Air Force, and that is men who do not know whether they are going to succeed in the air or whether they will not go back to the Artillery, or to their old ship; and if you have men whose interest is divided you never can get that wholehearted support and enthusiasm and real *esprit de corps* which must be the basis of success in aviation in the future. I dare say the right hon. gentleman will explain either that this is a purely temporary arrangement—if it is we must accept it as such, but we should like to know how long it will last—or he may say that it is a step in the direction of the co-ordination of the three Services and of the creation of a Ministry of Defence. Thirty years ago Lord Randolph Churchill presented a memorandum suggesting a Minister of Defence, who should combine both the Navy and the Army under his control. But I would remind the right hon. gentleman that one of the reasons why that very scheme was turned down by one of the strongest Committees that ever sat on Defence, of which Lord Sydenham was secretary, was because the Navy could not be convinced that under such a scheme it was not going to get the worst of it. It was well founded then, how much more true would it be for the Air Force to be suspicious, being the youngest of all, that she was not going to get an equal position with the older Services under such a scheme. I suppose that what will really happen will be, not that there will be one Minister in charge of the three Services, but that our defences will be governed by some Committee partaking of the character of the Imperial Defence Committee or the War Cabinet. We are, therefore, entitled to ask what will be the exact functions of the Air Ministry under such a Committee, and whether this present plan of uniting the two under the control of one right hon. gentleman is going to assist a successful arrangement of that kind? During the War the smallest part of the work of the Air Force has been done by the Independent Air Force, which is the part which operates not under the orders of either the Army or the Navy. That Force will have the greatest part of the work to do in the future. There will be a punitive expedition, perhaps, or there may be police work to be done in the way of a force to be put at the disposal of a League of Nations in order to enforce its decisions. This will be partaking of the character of the work of the I.A.F. In the particular part of the theatre of war in which I was employed some years ago a great deal could have been done if there had been an effective I.A.F. The whole of the Turkish coast line was exposed, but there was absolutely no organisation of the Air Force to enable us to attack it. The Baghdad Railway passes the Gulf of Alexandretta at a point only 15 miles from the coast, perfectly flat land over which it is quite easy to fly, as we did repeatedly, but we had no organisation of machines to enable us to blow up the railway, which crosses two rivers by bridges 130 metres wide, I think, if I remember rightly—a single line. That railway could undoubtedly have been destroyed if we had had the material to do it, and that would have meant isolating the forces of the Turks in the East from their headquarters in Asia Minor. Then there is the case of the Hedjas. The Turks for a long time kept a garrison at Medina, from which a single line of railway runs through the desert to the north. If we had had a sufficient and properly organised I.A.F. there is not the least doubt that that line could have been cut repeatedly, the garrison of Medina forced to surrender, and the King of the Hedjas would have had his victory months, and perhaps a year, sooner than he had. As it was, the capture of Jeddah was a decisive military action by air. The place was bombed and the Turks surrendered without any land force being required at all, which is an instance of a decisive action by air. At Aden there was a man with a force some 25 miles inland and no one would attack him because it was too hot. If we had had an effective I.A.F. he would have been wiped out. That is the sort of thing which will happen in future. It is one of the things that the Air Force will have to undertake on the military side.

Then there is the civilian side, which is far more important. These are some of the commonplaces of their work—licensing aircraft, certifying pilots, regulating patrols, laying down international law, and so on, as well as a great deal of pioneer work. The aircraft industry is, of course, at a very critical point. It has lost, or is losing, its best customer. The War having ceased, the best customer is cutting down its orders, and it is not a time when the industry can afford to do the necessary pioneer work. The air must be policed. You must prevent smuggling—a big job. You may both find and signal distressed vessels. A great deal of the work done by coastguards could certainly be done by aircraft. The air patrols would see a vessel in distress and might bring it succour, and certainly bring back news so that assistance could be rendered. Then there are expeditions. An expedition already is fitting out in America and taking aircraft to explore the Northern regions. Undoubtedly there is the use of aircraft for the production of rain by a discharge of electric currents between aircraft in the clouds. There is the whole arrangement of codes and signals in the air. You must have charts showing the speed of winds at different heights. There is also the question of telling aircraft which are lost their position by means of wireless telegraphy. Then there is the provision of lighthouses, and all sorts of signals in fog.

All this sort of work has got to be done by the Air Ministry, and the question we have to ask is: Is a proper foundation for this sort of work being prepared by the association of the Air Ministry with the War Office? The R.A.F. can look back without shame on the records of the last four years. It can look forward to an unparalleled opportunity of service in the cause of humanity. That, in my judgment, depends entirely on the preservation of its unity and its independence.

Col. Moore-Brabazon: The Government have introduced a measure for an arrangement of offices which is so much against what we understood in the past that I have, much against my will, to raise my voice in protest.

In the very early days of aviation, in 1911, certain members of the Aero Club were so impressed with the possibilities of aircraft from a purely military point of view that they arranged a deputation to the War Office, and made an offer to the War Office to provide two aeroplanes, with the pilots and all the necessary paraphernalia, so that the aeroplanes might be tried during the Army manoeuvres of that year. I formed one of that deputation. I approached, I must say, the building with some confidence. After being kept waiting three-quarters of an hour we were told that the aeroplanes were not wanted for war purposes, that no one could see any use for them. That was the sort of encouragement one got in those days. Lest, however, the Admiralty should think that they are less blameworthy, let me tell the House that the Aero Club again had to teach the first four naval pilots. These were taught by private members of the club because no action would be taken by the Navy in the matter.

It is popularly supposed that the Flying Corps and the Air Services during the War were welcomed by everybody at the front. Such was not at all the case. First of all, the thing was not in the book. And reconnaissances the most elementary, of course, of all the uses of aircraft, were not in any way believed in. When trench warfare began we went in for photography, produced all sorts of photographs. We tried to get the people to accept them, but they did not see any use for them. We had as a Flying Corps actually to start to make maps before the Army would make them. There was a lieutenant-colonel, now a famous general, who carried in his pocket a pocketful of photographs. After every interview he used—like a commercial traveller—to produce one and say, "You must have one of these; you will find them very useful." Then, again, I want to show another instance of opposition from the Army mind—that is in regard to artillery. It is well known that every gunner thinks he knows exactly where his shot goes. That is one of those popular fallacies one cannot dispel. The R.F.C. did their very best to help them to correct their shots. Yet it was not until we actually showed the marks made by the shells, by photographs, that they were practically forced to use aeroplanes for firing heavy guns.

Do not let the Navy think that they are not to blame. We are told in the papers every day to remember the Dover patrol. The Navy were in charge of that stretch of coast. They allowed to be built up there an enormous enemy artillery which never ought to have been allowed for one moment to exist. It never would have existed if aircraft had only been used as it should have been. The while there were squadrons at Dunkirk dying to do the work. I bring forward these points to show the constant opposition there is to anything new, and we have never got over that even to this day. After seeing what opposition there was to the R.N.A.S. there was naturally a feeling between the two Services to get together to be allowed to do their work. When the R.A.F. was formed that was a red-letter day in aviation, because it was the declaration of independence of a new Service. A few of us here believe in the future of aviation, and we want to know whether the Government do. We want to know what the arrangement is and whether it is permanent or not. If it is simply to help demobilisation let us be told so. Perhaps the Government have taken it into their heads to start some aviation experiment on their own, and this is but kite-flying for a Ministry of Defence. Had the present arrangement been reversed, and had there been a Secretary for State for Air and an Under-Secretary of State for War, that would at least have shown that the Government saw what things were coming to, because although the Air Service is going to be very expensive it is in many ways going to save the State money.

The whole outlook in different parts of the Empire must change. For instance, a squadron will do all the work of several garrisons in India, but if you keep your two Ministries together, and if the Secretary of State for War is to take the advice of soldiers, is it not within the bounds of possibility that there will come up from the soldiers a recommendation to eliminate themselves in favour of another Service? This arrangement has already started almost an agitation for the old R.N.A.S. I do not know very much about the organisation of the Admiralty, and it has always been somewhat of a mystery to me that they have been able to produce anything more than a trirème, but the Navy have some grievances in the matter of R.A.F. officers on board their ships. The future of the Air Service can be rather likened to the Navy in which a fundamental training is the same, but in which at the end the different officers choose the separate branch of the Service into which they would like to go. In the Air Service it would not be difficult to arrange some form of regiments or corps, one of which would be devoted, say, to the naval side, one to the military side, one to pure bombing, one to pure fighting, and one to the offensive against troops. It only requires a little organisation and a little imagination.

We now come to the commercial side of aviation. Of course, an enormous amount of nonsense has been written about this by people who know very little about it, but I am glad to think that the Indian rope trick has taken precedence in the literary field for the moment. I think we can compare the future of aviation a little with motoring. We find to-day in motoring that taxation is heavier and legislation is more oppressive in this country than in any other civilised country in the world. The whole of the future of aeronautics now rests in the hands of the Government. That is an awful thought. The first thing that we want is to release all flying. We want flying permitted in this country apart from Government machines. Already there is a trend for designs to go different ways. The war machine and the commercial machine are very different things, and the designs are going in absolutely opposite directions. Up to quite recently no firm was allowed even to build an aeroplane which was not approved by the technical side of the Air Ministry. I want to show the House the enormous rise of militarism in the Air Ministry. It was fuller of generals than any other building in England. Even to-day the civil direction of aviation is run by a general. There is scarcely a department which is not run by a general, and where we did expect a civilian politician at the head we find a major-general. There is at this moment a demobilisation going on in the Air Ministry which I regard with very great alarm. The Air Service, as it was at the end of the War, was composed of civilians who had come into that force and a few Regular officers. Those civilians, who were the blood of that Service, are going out every day, and there are being left there nothing but Old Regular Officers. You cannot change the spots of a leopard. Most of those at the head of Departments were generals, and were Staff officers in the War Office, and that is their spiritual home to-day. Never did the future of a great movement, a new age almost, depend upon careful organisation at one particular time more than aviation depends upon it now. Through this War, with the united efforts of all manufacturers, and with our wonderful flying officers, we have got to the top of the tree. We must keep there. We cannot, by lethargy and by trying to run the thing on a military line when it must be run on a civilian basis, jeopardise the position we have won. There is one bright spot, and that is the personality of the Secretary of State for Air. He does enjoy the confidence of most people interested in the air. He has imagination, and I believe he has the movement at heart. He has started by shaking a little of our confidence, but if he can in any way restore that, he will find in our little committee the greatest help, because we are out to show that not only is the sea His Majesty's ocean, but that the air is His Majesty's also.

The Secretary of State for War (Mr. Churchill): I am called upon to define the policy of the Government on a Motion which, if it were successful, would entail a change of Government. The Prime Minister is responsible for the decisions which have led to the present arrangement. It falls to me to defend my own qualifications for this double office and to do the best I can to repeat the arguments which I understand actuated him in arriving at that decision. He had first of all in his mind a great wish not to multiply unduly the offices of the Government. In various directions it is necessary to create new offices, and so far as possible he wished to reduce the scale of the Parliamentary staff by which the Government is carried on. Although the Air Service is an arm which will acquire increasing importance as the years go by there is no doubt that after the demobilisation is complete the size of the Air Service compared with either the Army or the Navy will be very much smaller, and it was not considered by the Prime Minister at the present period in aviation development that a separate Secretaryship of State was required for the administration of the Air Service.

In the second place, we are confronted at present with the great operation of demobilisation, which affects the Army and the Air Service in very similar ways though not absolutely identical, and which affects them in

ways different from those in which the Navy is affected. The Navy has only been expanded two and a half times, the Air Service has sprung into existence, and the Army has been multiplied by 10. This makes the shrinkages which have to be made in the Air Service and the Army involve decisions in regard to pay, conditions, and regulations governing the transition of men from military to civil life which I say, without hesitation, can far better be taken in regard to those two kindred Services if they are taken from a common point of view and if the two Departments can be made to march in step and not overthrow the policy of the one by separate or independent action on the part of the other. Therefore it is specially in regard to this period of demobilisation that I make this point. When demobilisation is complete another important task will lie before us. We shall have to redistribute the garrisons of the British Empire in the light of the lessons we have learned in the War, and in view of the fact that a new element, a new arm, has come into the military category, and though we must not anticipate the decisions of the Peace Conference, that our military responsibilities, particularly in the East, may be somewhat enlarged. If you are to have the highest amount of military power developed with the least possible cost you have to redistribute your garrisons, with the air and military forces harmoniously interspersed and disposed about the Empire. There are good reasons why an effective arrangement of squadrons, all working from powerful well-established bases, could be held with a minimum of expense and difficulty and the greatest amount of security, whereas without that aerial development very large forces of Infantry, Cavalry, and Artillery would require to be maintained at the greatest possible expense. It is the harmonious interweaving of the Air Force with the Army in the redistribution of the military forces, in the redistribution of our overseas garrisons, that the hope of our discharging the great tasks that lie before us without an undue burden upon the public exchequer mainly lies. That redistribution can far better be made if it is made from one point of view and if the two Services which are primarily concerned walk together in step and are not competitive rivals in the field. Therefore, I say that at any rate at present and in the future—the immediate future—there is special reason why the Air and the Military Secretaryships of State should be directed from a common standpoint. But I should like to assure my hon. Friends that in the meantime, without prejudice to anything that may or may not be done in the future, the integrity, the unity, the independence of the R.A.F. will be sedulously and carefully maintained. There is not the slightest intention of merging them in the Army, of merging the administration of the R.A.F. in the War Office, of subordinating it to the War Office, or of derogating from its separate, independent state as a R.A.F. I have done my best on every opportunity which has so far fallen in my way to make that perfectly plain, and if at any time another arrangement is thought preferable, and the needs which make this present arrangement appropriate are no longer in existence, the Air Force will be found to have been so conducted and so managed that it could immediately undertake an independent existence with my right hon. Friend (General Seely) as pilot under its own steam, or any other arrangement could be made which would enable the offices to be divided. There is no question whatever of rupturing the integrity of the Air Force. So far from the Air Force having been disintegrated by what has taken place since the present Government was formed, we have enlarged our scope. The manufacturing and production departments of the Ministry of Munitions have been handed over to the Air Force. Anyone acquainted with the importance of these departments will realise what an accession that has been to the substance and strength of the air organisation. Instead of civilian aviation being split up between all the different Departments, the Board of Trade, the Foreign Office, or whatever it may be, as some people had suggested, it will now be definitely placed in the sphere of the Air Ministry.

I am very glad indeed that General Sykes has been induced to take charge of this most important and growing branch of aviation. If you are to choose the head of a civil branch of aviation your choice is limited to two classes of men. You must either choose a Service man or an aircraft manufacturer, and while I recognise to the full the services which the aircraft manufacturers have rendered there can be no doubt that a Service man of distinction is to be preferred, and for this reason: Whichever great head of an aircraft factory you choose to develop civil aviation for the Government you would certainly engender in the breasts of all his rivals and competitors in the trade a feeling of great insecurity and suspicion that would undoubtedly dog his steps. But General Sykes has most patriotically consented to retire from the military profession, and to take civilian garb, in order to emphasise the civilian character of this Department, and to devote his great abilities to developing to the utmost, as far as it lies in the province of the Government, to the progress of civil and commercial aviation. We have already taken preliminary steps to introduce a Bill to the House to enable us to get private flying started, at first under Regulations, which at a later date can be greatly relaxed, and I trust that progress will be made in that sphere.

My hon. Friend opposite drew a picture of quarrels between the Air Office and the War Office, in which the Air Office would always be the sufferer. I am not quite sure that that is a picture which carried conviction to his own mind. At any rate, I can promise him that there will be very few quarrels between the heads of those two Departments. That, at any rate, is an assurance which I can give him. But there is another step which he recommended which I think it right and proper to take. In order to emphasise the distinction between the Air Force and the two parent Services it is necessary that the titles and ranks of the officers should be different from those which are employed in the two parent Services. There is no topic which gives rise to more fertile and provoking discussion than the invention of titles and styles, and therefore I will not venture to submit to the House at present and of those which we have in mind, but I am glad to say that General Trenchard, who has resumed his post in the R.A.F., is confident that a good scheme of perfectly distinctive titles can be devised, from which it will be seen that so far from the R.A.F. being merged in the War Office it has, in fact, taken notable steps towards emphasising its own independent characteristics. I should like to point out to those in this House who are very much interested in aviation that at the present stage much harm may easily be done by over-estimating its capacity and capability. The hon. Gentleman who spoke last drew attention to the extravagant estimates which are set about in the newspapers as to the immediate possibilities of commercial aviation. Generally, we shall not help to forward this cause if we begin by teaching the public to expect from it all sorts of performances which, although they are now within view, are certainly not yet within reach. The Air Force must neglect nothing that can add to its body and its substance. We want everything that the technical departments and the production processes can give us. We want everything we can get from the Navy and from the Army. We want everything we can procure from our own unaided effort.

The officers of the Air Force must be drawn from three sources. There must be Air Force officers of permanent commission, but there must also be Army and Navy officers who are seconded, who will come in and do three or four years of flying, and then go back to the parent Services, teaching the parent forces what the air is worth and what it can do for them; and then, perhaps, some of them will come back at a later date as Staff officers or in command. Unless you have that process you will not be able to make a fair proportion between the lower ranks of the Service and the higher ranks which are open to the legitimate aspirations of those embarking on the career. Unless you have a proper proportion between the higher posts at

the top of the Service and the young men who enter at the bottom you will find that you will not get that class which is absolutely necessary if the high tone of the Service is to be maintained—that class of efficient young men of enterprise and daring who are indispensable to the force. Every profession must have its proper proportion. I have been getting out statistics to see how many curates there are to every archbishop, how many sub-lieutenants to every admiral, how many lieutenants to every field-marshal, and so on. In the Air Force we have the same great disproportion of the young officers of the flying age, and unless you can derive from the two other parent forces something that will take this off, so that they will look to their own Services for their final advancement, you will find it very difficult to provide a reasonable share of advancement and promotion for those who have to enter on this profession.

There is only one more word which I can say before I sit down, and I say it because the Prime Minister specially referred to it when instructing me on the subject. Reference has been made by both speakers to what is called the Ministry of Defence. There can be no Ministry of Defence, however good that may be in theory and as an ultimate ideal, actually there can be no Ministry of Defence until you have created a staff of extra-officers who have grown up year after year having studied the question of War and the defence of the Empire from the general point of view, and unless that staff have gradually gained the confidence of their respective branches and are familiar with all the branches. You have to build up a great body of combined war thought, capable of producing professional, expert leaders to advise the Government, not from an Army point of view or a Navy point of view, but generally over the whole field of war. Until you possess that body of officers, believe me, it is idle to speculate on the possibilities of a Ministry of Defence. That is a task which certainly cannot be accomplished and achieved until not merely the officers have been trained, but have grown up and are in such a position in their respective Services as will entitle them to the confidence of their comrades and their profession. It is a matter of a good many years' work. However, nothing in what has been done in the association of the Air Force and the Army under the conditions I have specified, with entirely separate offices, is inconsistent in any way with that ideal, if it is thought to be possible. It may be said that two-thirds of the road has already been covered.

Lord Hugh Cecil: It appears that the Government are anxious to save the difference in the salary between an Under-Secretary of State and a Secretary of State. Does my right hon. Friend think it worth while to put forward an argument of that kind in the House of Commons at this time of day? Then we are told it is necessary that the Air Force and War Office should work together in respect of demobilisation and other matters. Is my right hon. Friend so indolent that unless he was a subordinate official he would find it impossible to work with him, and disagreement would be inevitable? These arguments only inspire distrust and create the impression that something is being attempted which the Government dare not avow. They are protesting it is essential that the War Office should be over the Air Force which is the very thing we want to avoid. Surely my right hon. Friend can see it is absolutely essential for the efficiency of the Air Service that it should be entirely detached from the control of the War Office. Experience has shown us that wherever the War Office has intruded its fingers there has followed inefficiency and disaster. As long as the War Office had anything to do with the Air Service it had a mischievous effect, and nothing could be more likely to imperil the future and efficiency of the Air Service than any return to the arrangement adopted in the past. I merely want to enter a protest in case my right hon. Friend thought his explanation was a satisfactory one.

Captain Benn: In view of what the right hon. Gentleman has said, and after consultation with my hon. and gallant Friends, I beg to ask leave to withdraw the Amendment.

Amendment, by leave, withdrawn.

Aerial Navigation Bill

THE UNDER-SECRETARY OF STATE FOR AIR (General Seely), on February 17, moved the second reading. He said: It is a temporary measure, as is explained in the title. The reason why we have asked the House to pass this Bill is that unless we get legislation of this kind it is impossible to permit civilian flying at all. We are advised by the Law Officers of the Crown that we have not the power in the Air Ministry to make Regulations for civilian flying without legislation. Therefore, I commend this Bill to the House as being necessary in order to enable the science of flying to be pursued other than by the military. The Bill provides that the Secretary of State shall have power to make certain Regulations, and, in order to forestall criticism of those Regulations, I would say that the object of them is purely to secure the reasonable safety of the public. We have no desire to impose upon civilian flying any restrictions which would in any way tend to prevent people from evolving new types or doing anything which they think will advance flying. But, of course, it is necessary to have power to secure the safety of the public, and this we shall obtain by the provisions of this Bill. The reason why this is only a temporary measure, and why it is proposed only to take power to act under it until the first day of next year, is that it will be necessary later on in the Session, by permission of the House, to introduce a larger Act regularising flying in accordance with the provisions of a Convention which we hope will shortly be agreed to by the Allied Powers at a Convention which will shortly meet in Paris. We have already made considerable progress in agreement with France, America, and other Allied nations, and I trust we shall come to a general agreement as to the regulation of flying. This will then be embodied in a Bill which I shall ask leave to bring before the House. In the meantime, this Bill will enable us to give permission to civilians again to commence to fly. I earnestly hope it may have a quick passage through the House, for he would be a rash man who set any limit to the possibilities of flying in the future, and the sooner we permit all those who are interested in it to fly, under proper safeguards for the public safety, I think the better for all concerned.

Mr. Joynson-Hicks: I do want to protest against this form of legislation being carried out at the whim of the Secretary of State. If my right hon. friend had introduced a Bill we should have been delighted to give it most rapid progress through the House. Instead of that, he simply introduces an enabling measure to enable himself or the Secretary of State for Air to make any kind of regulations he thinks fit, and those regulations will be in force for a year, and probably form the basis of future legislation.

These regulations are bound to interfere with the liberty of the subject in every possible way. I want to ask him as to the regulations he is going to make, more particularly with regard to flying over other people's property. While it may be perfectly right for Parliament itself to take away the right of a man to prevent flying over his own property, I suggest it is not right and proper to leave those rights merely in the hands of a Secretary of State. At the moment the law undoubtedly is that a man who owns a piece of land or house owns the air above it right up to the sky. Then what is my right hon. Friend going to do about territorial waters, or what one might now call territorial air? He preserves in his Bill territorial rights, but a three-mile limit is no earthly good in regard to the air.

I think my right hon. gentleman should give a little more information as to the lines which the regulations are going to take. He takes power under the Bill to provide for "the registration, identification, inspection and

certification of aircraft." He knows that an aeroplane may be certified to-day and may be quite unfit for use to-morrow, and yet that aeroplane is to be let loose with a Government certificate, which any passenger who chooses to go in the aeroplane is bound to treat as an official certification of its air-worthiness. Then, of course, the same thing applies to "the licensing inspection and regulation of aerodromes." Is he going to give a certificate with regard to every aerodrome that is perfectly safe, because that, I take it, is what certification means.

What steps is he going to take by his regulations, or otherwise, in regard to the question of damage by aeroplane accident?

Mr. Mosley: It is universally admitted, I believe, to-day, that State control is beneficial in some spheres where the free play of individual competition and interest may jeopardise the safety and comfort of the community as a whole, but my contention is that the air is the very last conceivable sphere of human activity to be brought too closely beneath the eye of the clerk in Whitehall. We find in this Bill the very ominous phrase, "Inspection and certification of aircraft." There is a shrewd suspicion in the mind of the trade concerned, that inspection infers the arbitrary right of the State to supervise and intervene at every step of the daily business of the private exploiter of aviation. Surely the easiest and most effective means to the attainment of the desired end—the safety of the public—would be the imposition of the very heaviest penalties in any case of accident which could be attributed to negligence. By adopting this course, the Government would lay the whole onus of responsibility for public safety upon the shoulders of the company, who would naturally take every step to see that their own staff was kept at a proper state of efficiency, rather than run the risk of mishap, which would not only ruin their business, but actually curtail the liberty of those responsible.

If the Government undertakes the work of supervision, little or no blame can be laid at the door of the company if anything goes wrong. All new types admittedly must be tested by the Government before being released for the purpose of public conveyance, but if this word "certification" implies any desire on the part of the Government to confine firms engaged in this work to any particular officially approved design, I am confident that this restriction will strike a very severe blow indeed at the industry of aerial manufacture in this country.

Sir F. Flannery: I trust they will stick to the general principle of the Bill, and will see that proper precautions by way of inspection and certification, the testing of materials, and the examination of designs will be undertaken. I do ask my right hon. friend to take this from me, as one having life-long experience in the matter, that he should do everything in his power to prevent the strangling of improvements which at one time so discredited the Board of Trade in their system of inspection, both as regards railways and steamships. There was a period, 35 years or so ago, when no improvements, however obvious, however well-vouched for, would be considered by the Board of Trade until, in some illicit way, such improvement had been tried and had been demonstrated to be satisfactory. When this Bill becomes an Act let such organisation as my right hon. friend will, I hope, establish be guided by the highest possible and the most progressive scientific men that he can find. Let there be an experimental department if necessary. Let the Government officials not be obstructionists, but lead in the van of progress and encourage rather than obstruct. Having done that, having put their imprimatur upon that which is unsafe, they will contribute to progress, and ensure the safety of those who will travel by what, I believe, will be one of the regular sources of transit in the immediate future.

Lieut.-Col. Moore-Brabazon: We must recognise and this House must realise, however, that we are giving to the Government a blank cheque in aviation, for that is what this Bill really means. Under the system proposed the manufacturers of this country must stop immediately, but I understand that the Under-Secretary for Air has already consulted with the trade and has promised some modifications.

I want the right hon. gentleman to allow these people to design their own machines without control. Up to the end of the war no aeroplane was allowed to go up unless it had received the complete assent of the experts of the Air Ministry. This contemplated inspection of design is what I object to, and I ask that the Government should allow machines to be built and tried, and when they come forward, as firms will do, with machines ready, that the Government shall look at them and see whether they are safe from the public point of view.

The second point I would ask the right hon. gentleman is, that the State shall not be allowed to hamper the industry by excessive inspection on the ground of the safety of the public—I do not mean after the machine is built, but during the construction of the machine. Commercial aviation is a commercial proposition, and if people are going to carry passengers in their machines they are going to have to pay if they kill people in those machines, and the right body to regulate and inspect machines is Lloyd's, and not the Government. If the right hon. gentleman can give me later assurances on those two points I think that there will not be very much opposition to this Bill.

Mr. Denniss: It is too soon to allow the British public to be put at the mercy of every rash individual who chooses to go in for aeroplanes either for sport or for commercial purposes. It is perfectly right and proper that for the present at least pilots' licences should be given by the Government pilots and aircraft should be registered and certified, because there is no other body at present which is capable of performing these very important duties. The first two lines of the first Clause of the Bill are enough to inspire one with a great deal of doubt as to whether or not this Bill may not be used to crush the commercial use of aircraft altogether because it is the most general Clause I have ever seen. It allows the Air Council, which is the authority under the Bill, to stop all aircraft and flying in this country. It can prevent them going out of the country or coming in or flying over the country. That being the case, unless these regulations are inspired by people who are thoroughly in sympathy with the commercial aspects of the aircraft industry then I am afraid that industry must very much suffer. We remember well what happened in the case of the motor traffic. I should like to have some assurance from the hon. and gallant gentleman that he does not contemplate keeping the dead hand of bureaucracy upon aircraft navigation for ever and ever, but that he will at the earliest possible moment turn it over to the civil authority.

Capt. Wedgwood Benn: I want to ask the right hon. and gallant gentleman who represents the Air Ministry, one or two questions. Does the Bill give the Air Ministry the power required to enable it to undertake pioneer work in aerial navigation—the setting up of the aerial routes both in this country and in the Empire generally—which we suppose is going to be one of the chief duties of the civilian side of that Ministry's work? Secondly, is it not possible—this is rather a point that we may deal with in Committee—to limit the certification of aircraft to aircraft which are going to be used for public purposes, so that a private pilot will be at liberty to fly any aircraft? I say this because there will be a danger that unimaginative officials will not give either the encouragement or the scope to the private adventurer which the progress of aerial navigation undoubtedly demands. The last clause of the Bill says that the Act shall continue in force for one year. One would suppose that meant that the Act would expire at the end of the year, and that if it were not then renewed other legislation would be brought forward. The right hon. and gallant gentleman knows, however, that there

is a contrivance called the Expiring Laws Continuance Bill, and I should like to have from him the assurance that we shall not find in the Schedule of that Bill, which is practically undebated, the name of this Aerial Navigation Bill.

General Seely: I can only speak by leave of the House, but as briefly as possible. The provisional Regulations which we shall draft, and which are the only ones which will appear under this Bill, will in almost all respects follow the lines of the recommendations of the Aerial Transport Committee. I would emphasise that this is an interim measure, and that we must later on have a larger measure, which will put in the form of a law the whole of the arrangements for the regulation of flying in the same way as there are proper, regular Acts, as, for instance, the Board of Trade Act, to regulate either land transport or sea transport. I would again emphasise that this is a Bill by which alone we are enabled to give facilities for private individuals to fly. Without it they cannot fly, and it is principally for that reason that I commend it to the House. We propose that certification should be done daily by persons appointed by the manufacturers, with the approval of the Air Ministry. Thus you will not have perpetual inspection by Government Departments, which would involve an immense number of inspectors or mean that the thing would not be properly done.

Mr. Joynson-Hicks: Does that mean that every machine is to be inspected and practically certified every day?

General Seely: Yes. The criticism made to me when I met the British Society of Aircraft Manufacturers was that the provision was hardly necessary, because, of course, every owner of aeroplanes must inspect them. I am sure it is a wise provision, and I also think it is wise to leave it to the manufacturers to make the inspection as part of their regular duty by persons approved by the Air Ministry. Subject to that, I believe it will work well.

By this Bill, which I hope will become an Act, we shall be able to do the things named in Clause 1, but that does not by any means include any of the things which we must do if we are to have a proper code of law for the air. They must be put in the larger Bill. The question of penalties for the forging of certificates, for instance, cannot be dealt with under this Bill. The ordinary common and Statute law, as we know it, will have to be the law for the time being. If we were to attempt to make a code of law for the air, it would mean a very large Bill and involve very long debates. Therefore, this Bill only sets out to do that which I have described in my opening remarks, namely, to enable civilians to fly with a minimum of interference on the part of the State consistent with the public safety. I will reply to Col. Moore-Brabazon by saying that the whole object of the Air Ministry, I can assure him as long as I am there—and I know I can speak for my right hon. friend—will be to see that the State helps and does not hinder, that it does its utmost to encourage new designs of every kind, that it does not profess to be a grandmother in any sense, and that all restrictions possible shall be removed. We are determined the State shall only endeavour to open the way to skill and energy. It will not try to hamper or thwart independence of thought or action on the part of those engaged. When I came across the Regulations drawn up in the ordinary form, in which, following the precedent in regard to land craft, it laid it down that aircraft should be examined as to its suitability and safety, I struck out the word "suitability," because it seemed to me that the State had nothing to do with that. If somebody proposes to fly from here to Australia we should be only too delighted to help them in every way consistently with the general safety. If they want to fly on a kind of machine entirely new to us which we may think ill-adapted for the purpose we shall not stop them so long as we are satisfied that the machine is reasonably safe. We shall have nothing more to say on that point. As to the activities of the Aircraft Ministry, we intend to give the fullest information in our power as to new discoveries, making, of course, exceptions in regard to military secrets, but the public will be at liberty to take out their own patents and keep their own secrets. That seems to be peculiarly the duty of the State in this entirely new form of locomotion.

Lieut.-Col. Moore-Brabazon: May they build machines without submitting designs to the Air Ministry?

General Seely: Certainly. We shall only insist that they are reasonably safe, as is done in the case of ships at sea. We propose to follow exactly the precedent set in that case. If a man chooses to build a vessel, however fantastic in appearance or design, if it is reasonably safe the Board of Trade makes no objection. The State must do its duty to see that there is reasonable safety. There were three definite points put to me by my hon. friend the Member for Leith (Capt. Wedgwood Benn). The first was as to pioneer routes. The opening of pioneer routes is done by the military at the present time, and if the State is going to do it, it will be the Royal Air Force that will take the duty on. At the present time we can do what we please within the limits imposed by Parliament with military and naval aviation, and if the Treasury approves of the expenditure necessary for opening up new routes, say, from Cairo to Kurrachi, this Bill will not help us, but it will enable people to begin experimental flying. With regard to certificates for machines which are not to carry passengers, I have been asked if everybody is to be entitled to break his own neck. I say undoubtedly he is so entitled. After all, the risk to those below is similar only to the risk people have of being run over by motor cars. I do not think it is necessary to require any form of inspection of machines to be flown by men themselves, nor is there any need that they should have certificates, as is requisite in the case of those who are going to carry passengers, goods and, it may be, mails. The principle that you must take care of yourself is a good one.

We look forward to people doing in the future what they did in the early days of flying. They will really be pioneers. They will strike out entirely new lines, making machines to their own designs—designs which all sorts of wise people may think to be useless and unsuitable for flying. Finally, I have been asked for a very definite pledge on a very technical point. I am very glad to give it. My hon. and gallant friend wanted to be assured that this measure will not be included in the Expiring Laws Continuance Bill, which is generally passed without debate. It shall not be put into that Bill, and I hope as I give this assurance the House will help me to pass the bigger Bill which we intend to present to Parliament and which will enable this Bill to become obsolete. I think I have answered all the questions put to me.

Mr. Joynson-Hicks: There was a question with regard to liability for accidents. Are we going to do away with the common law question of negligence? Suppose I am killed by an aeroplane from above, will my executors have to establish negligence on the part of the aeroplane or would compensation be given merely because I was killed?

General Seely: I put that point to the Attorney-General, and he was unable to answer it. I do not know how it stands. I think probably that negligence would have to be proved in the case of air accidents as in the case of land accidents. But that is merely my own *obiter dictum*. It is a long time since I was called to the Bar, and I cannot claim that it is a sound opinion. I do not think this Bill will alter the position in that respect, but I will make a note of the point. It is a subject which must be included in the larger Bill which I shall bring in at a future date. If any hon. Members have any suggestions they would like to make on the general question and will send them to me in the course of the next few weeks, I shall be most happy to consider whether they come within the scope and intentions of the larger measure, and, of course, within the agreement for international flying. It is quite likely, this being a new Service, that there are points we may have overlooked. I do not know whether it would be reasonable to ask the House to take the Committee Stage of this Bill to-night. I am entirely in the hands of the House, but, in view of the fact that we shall be discussing the larger Bill before very long, perhaps hon. Members might be not unwilling to accept this suggestion.

Question put, and agreed to.

Bill accordingly read a second time.

On the Committee Stage, Mr. Joynson-Hicks and other Members pressed for the publication of the proposed Regulations.

General Seely: I will circulate the proposed Regulations—of course, they are only proposed Regulations now—to both the Committees which are referred to, and, of course, to any hon. Members who desire to see them.

General Seely agreed, if possible, to substitute the term "air" for "aerial."

At the end of Sub-section (1, b), the words, "Especially those used for the carrying of passengers, goods, and mails," were, on the motion of Capt. Benn, inserted.

An amendment by Sir Henry Norman to insert in Clause (1, c), after the word "exported," the words "and passengers transported," was agreed to.

On the consideration of Clause 2, Mr. Joynson-Hicks said: I think the words: "the purposes of the Air Council shall include all matters connected with 'aerial navigation' are a bit too wide. That power might include the manufacture of civil commercial aircraft and so forth. Then I think there ought to be some civilian members on the Air Council. I would suggest a sub-section to the Clause to the effect that there should be civilian members attached to the Air Council to act only in connection with the question of civil aviation. I think the whole of the commercial side of aviation will feel rather seriously if they are put entirely in the hands of military officers.

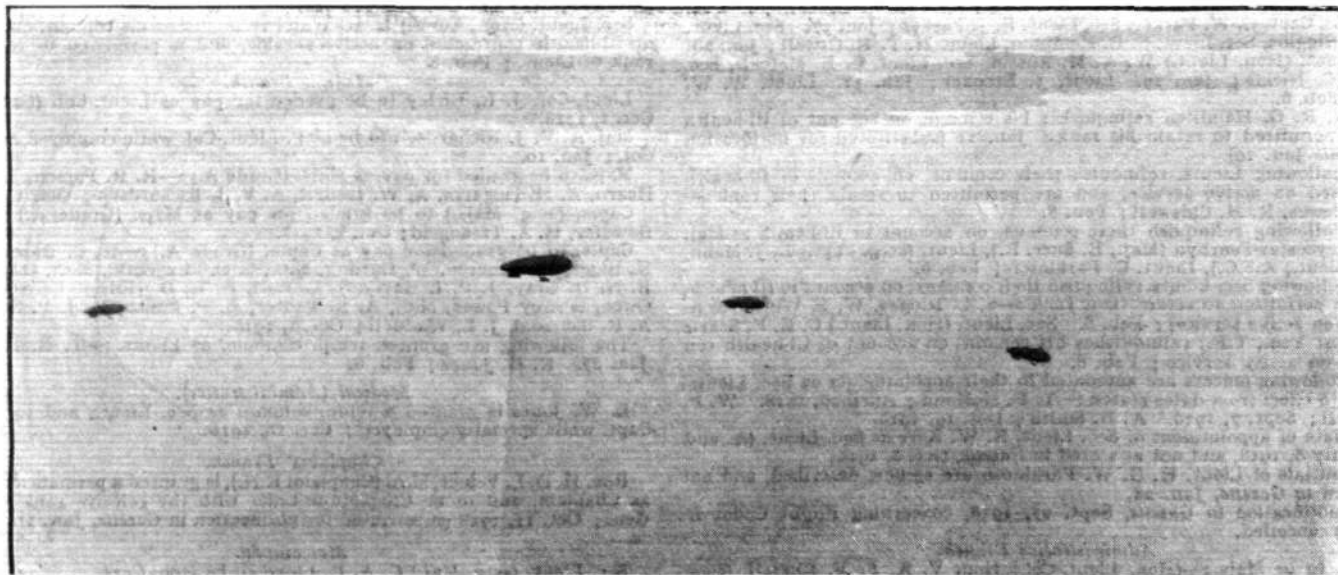
General Seely: With regard to making the Council more civilian in character, we have a considerable number of civilians on the Air Council. I shall, I suppose, shortly be demobilised. A civilian, Lord Londonderry, who is a member of the Air Council, will represent the Department in the House of Lords. Then we have Sir Arthur Duckham and Sir James Stevenson and Sir John Hunter, who is still technically a member of the Council. Therefore there is a large civilian element, and though some of these gentlemen are there specifically for the purpose of concluding contracts and generally winding-up the affairs of the war, one of them will certainly always remain.

Mr. Joynson-Hicks: There is also the question of the very wide scope of the Clause.

General Seely: I have made a note of that, and I hope the hon. Member will not press the point. I can assure him that we have no intention of going into the aircraft manufacturing business, and if we ever attempted to do it, what I say now would be brought up against us and make the thing impossible, for a Ministerial pledge is a Ministerial pledge that has to be kept as long as the Government survives. To confine it rigidly to the points specified would be inconvenient. I can assure the Committee that we have no ulterior motive whatever in making the Clause so wide.

Captain Benn: I cannot support the hon. gentleman behind me in regard to this Clause, because I understand it is a Clause by which the Air Council seeks power not only to deal with all these aerial matters, but to prevent other Government Departments interfering. That seems to be an extremely desirable thing. The air is an element that must be treated as a whole, and it must be controlled as a whole, so far as the State is concerned, in the hands of one authority.

The Clause and Clause 3 were agreed to.



On patrol. A quartet of airships off Dover

THE ROYAL AIR FORCE

London Gazette, February 7.

The following temporary appointments are made at the Air Ministry:—
Staff Officers, 2nd Class.—And to be actg. Maj. while so employed, if not already holding that rank:—(P.) Lieut. (actg. Capt.) C. A. Mercer; Jan. 3. Capt. (actg. Maj.) M. Skitt; Jan. 9.
Staff Officer, 3rd Class.—(P.) Sec. Lieut. (Hon. Lieut.) J. F. Lewis, and to be actg. Capt. while so employed; Dec. 28, 1918.
 The following temporary appointments are made:—
Group Commander.—Lieut.-Col. E. A. D. Masterman, C.B.E., and to be actg. Brig.-Genl. while so employed; April 1, 1918 (substituted for notification in *Gazette*, July 26, 1918).
Staff Officers, 3rd Class.—And to be actg. Capt. while so employed, if not already holding that rank:—Lieut. H. G. Cox; Oct. 20, 1918. (A.) Lieut. (actg. Capt.) R. P. Lamb; Nov. 19, 1918. (Q.) Capt. A. Ridley; Nov. 29, 1918. Lieut. (Hon. Capt.) F. C. Clements; Dec. 21, 1918. (P.) Lieut. (Hon. Capt.) G. W. Rogers; Jan. 1.

Flying Branch.

Capt. B. J. Silly, M.C., D.F.C., to be actg. Maj. whilst employed as Maj. (A.); Sept. 20, 1918.
 Capt. W. H. Mackenzie to be actg. Maj. whilst employed as Maj. (A. and S.); Oct. 21, 1918.
 Lieut. F. H. Taylor, M.C. (C. Ont. R.) to be actg. Capt. whilst employed as Capt. (A.); Nov. 15, 1918.
 Capt. R. C. Talbot reverts to Lieut. (K.B.) at his own request; Sept. 30, 1918 (substituted for notification in the *Gazette*, Oct. 15, 1918).
 Lieuts. to be Lieuts. (A.) from (O.):—H. J. Loughlin; Jan. 17. V. Westley, M.M., A. E. Gates; Jan. 20.
 Lieut. J. G. Sharp, M.C., to be Lieut. (A.), from (K.R.); Jan. 17.
 Lieut. V. G. Southern, M.C., to be Lieut. (A.), from (Ad.); Jan. 27.
 Lieut. J. M. A. Ewer to be Lieut. (O.), from (Ad.); Sept. 1, 1918.
 Sec. Lieut. F. W. F. Turner (late Gen. List, R.F.C., on prob.) is confirmed in his rank as Sec. Lieut. (Obs. Officer); May 14, 1918.
 The following relinquish their commns. on ceasing to be employed:—Lieut. W. S. Eason; July 13, 1918. Sec. Lieut. (Hon. Lieut.) L. E. Willmott. (Lieut. C. Ont. R.); Dec. 10, 1918. Lieut. (actg. Capt.) R. D. Baker, (Capt., Manitoba R.); Dec. 12, 1918. Lieut. W. L. Harrison (Lieut., N.Z. Exp. F.); Dec. 30, 1918. Sec. Lieut. (Hon. Capt.) J. H. Don (Capt., N.Z. Den. C.); Jan. 7. Sec. Lieut. R. B. Ronald; Jan. 8. Sec. Lieut. (Hon. Lieut.) L. B. Brown (Lieut., Can. F.C.); Sec. Lieut. J. W. Coles (Lieut. N. Brun. R.); Sec. Lieut. (Hon. Lieut.) W. G. Humphries, M.C. (Lieut. Can. F.A.); Sec. Lieut. (Hon. Lieut.) F. Vaillant (Lieut., Can. For. C.); Jan. 13. Sec. Lieut. (Hon. Lieut.) E. D. Burke (Lieut., Manitoba R.); Jan. 14. Lieut. (Hon. Capt.) G. H. S. Campbell (Capt., Cen. Ont. R.); Sec. Lieut. (Hon. Capt.) W. A. Carrothers (Capt., Manitoba R.); Jan. 17. Lieut. G. E. Langford (Lieut., Cen. Ont. R.); Lieut. (Hon. Capt.) J. E. Mackay; Jan. 20. Sec. Lieut. (Hon. Lieut.) C. le G. Amy (Lieut., Sask. R.); Lieut. (Hon. Capt.) R. G. McMullen (Capt., W. Ont. R.); Jan. 21. Sec. Lieut. (Hon. Capt.) O. T. Moran (Capt., Can. A.S.C.); Jan. 25.
 The following are transd. to unemployed list:—Sec. Lieut. J. Pryce-Jones, Lieut. T. L. Quinn; Jan. 10. Lieut. G. W. Dowding; Jan. 11. Sec. Lieut. A. S. Bradburn, Lieut. M. D. Carver; Jan. 14. Lieut. J. J. Hargan, Lieut. G. K. McArthur, Lieut. D. C. Telford; Jan. 15. Sec. Lieut. C. Chambers, Capt. D. Knowles, D.S.C., Lieut. S. R. Painter, Sec. Lieut. T. H. Storer, Sec. Lieut. A. A. Verity; Jan. 16. Lieut. W. A. Carveth, Sec. Lieut. R. Gillin, Sec. Lieut. W. J. Mitchell, Lieut. C. D. Thompson (H.A.C., T.F.), Lieut. H. V. L. Tubbs; Jan. 17. Capt. D. E. Harkness, D.S.C., Sec. Lieut. P. G. Rodier, Lieut. R. P. Sewell; Jan. 18. Sec. Lieut. F. W. Mulley, Capt. F. F. Stanley-Smith, Sec. Lieut. (Hon. Lieut.) J. E. Wight, Lieut. H. C. Welbourn, Capt. (actg. Maj.) C. F. Yeomans; Jan. 19. Sec. Lieut. (Hon. Lieut.) B. G. Nicholls (R.F.A.); Jan. 20. Sec. Lieut. (Hon. Lieut.) G. A. Burns (Man. R., T.F.), Sec. Lieut. A. G. Longson, Capt. W. B. Walton, Lieut. H. Weightman; Jan. 21. Lieut. A. W. Hogg (Lieut., Scott. H. Yeo., T.F.), Sec. Lieut. J. S. Pickles, Sec. Lieut. G. H. Power (Temp. Lieut., R. War. R.), Sec. Lieut. R. V. Watson, Lieut. (Hon. Capt.) W. A. Wolfendale (R. Lanc. R., T.F.); Jan. 22. Sec. Lieut. D. Benzie, Lieut. G. V. Cottam, Lieut. W. H. J. Dodge, Lieut. (actg. Capt.) D. Grinnell-Milne, Capt. H. Lawson, M.B.E., Lieut. F. D. Lloyd, Sec. Lieut. G. Tiplady; Jan. 23. Lieut. T. S. Blair (R.F.A., S.R.), Lieut. N. K. Brooks (R.F.A., S.R.), Sec. Lieut. E. C. Crossley, Sec. Lieut. E. W. Highton, Lieut. J. P. Hitchings, Capt. F. H. Holdsworth, Lieut. H. H. E. Holt, Sec. Lieut. H. S. Hopkins, Sec. Lieut. J. J. Kann, Sec. Lieut. T. T. Laker, Lieut. C. F. J. Lisle, Sec. Lieut. H. Ogden, Sec. Lieut. H. G. Packford; Jan. 24. Lieut. (actg. Capt.) R. G. Hammersley, Sec. Lieut. E. B. Hyde, Sec. Lieut. H. E. Linsley; Jan. 25. Lieut. (actg. Capt.) P. T. Carden, Sec. Lieut. J. A. L. Harris, Capt. G. S. Harrower, Sec. Lieut. C. E. Jones, Lieut. R. S. Lardner, Sec. Lieut. C. W. Pape; Jan. 26. Sec. Lieut. F. T. Hewitt, Sec. Lieut. S. H. F. Jones, Capt. G. W. Parker, Sec. Lieut. E. J. Parker; Jan. 27. Sec. Lieut. L. N. Higgins, Sec. Lieut. C. B. Kempson, Lieut. H. T. R. Osell; Jan. 28. Sec. Lieut. (Hon. Lieut.) W. A. M. Austin, Sec. Lieut. C. E. Metcalf, Sec. Lieut. C. Nickle; Jan. 29. Lieut. J. Brooker; Jan. 31. Lieut. W. W. Peel; Feb. 6.
 Lieut. R. G. Hamilton relinquishes his commn. on account of ill-health and is permitted to retain his rank: Jan. 11 (substituted for notification in *Gazette* Jan. 10).
 The following Lieuts. relinquish their commns. on account of ill-health contracted on active service, and are permitted to retain their rank:—A. G. Bewes, R. M. Chiswell; Feb. 8.
 The following relinquish their commns. on account of ill-health:—Maj. A. L. Leicester-Penrhyn (Maj., E. Surr. R.), Lieut. (actg. Capt.) L. J. Mann, M.C. (Lieut., A.S.C.), Lieut. C. Parkinson; Feb. 8.
 The following Sec. Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—S. C. Ridges, W. S. Winter (contracted on active service); Feb. 8. Sec. Lieut. (Hon. Lieut.) C. E. F. Searle (W. Kent Yeo., T.F.) relinquishes his commn. on account of ill-health contracted on active service; Feb. 8.
 The following officers are antedated in their appointments as Sec. Lieuts. (A.), with effect from dates stated:—T. E. McMann; April 26, 1918. W. P. Taltavall; Sept. 7, 1918. A. B. Smith; Oct. 19, 1918.
 The date of appointment of Sec. Lieut. R. W. Kerr as Sec. Lieut. (A. and S.) is July 8, 1918, and not as stated in *Gazette*, Oct. 8, 1918.
 The initials of Lieut. H. G. W. Parkinson are as now described, and not as stated in *Gazette*, Jan. 28.
 The notification in *Gazette*, Sept. 27, 1918, concerning Flight Cadet B. Riley is cancelled.

Administrative Branch.

Majs. to be Majs.:—(Hon. Lieut.-Col.) Hon. V. A. F. V. Russell, from (S.O.), Dec. 1, 1918, and to be Hon. Lieut.-Col.; E. S. Clarke, from (A.); Jan. 27.

Capt. A. E. Hartley to be Capt., from (S.O.); June 10, 1918.
 Lieuts. to be actg. Capt. whilst employed as Capt.:—E. S. B. Tavenor; Sept. 1, 1918. J. B. Love; Jan. 1.
 Lieuts. (A.) to be Lieuts.:—E. T. Mitchell; June 17, 1918. N. Nuttall; Aug. 26, 1918. K. V. Stratton; Sept. 5, 1918. C. F. Eckel; Sept. 26, 1918. L. C. Messiter; Sept. 30, 1918 (substituted for notification in *Gazette* Jan. 31. E. W. Lindeberg; Nov. 20, 1918. B. W. Knuckley; Nov. 22, 1918. L. N. W. Woods; Nov. 27, 1918. H. J. Goulding; Nov. 28, 1918. G. Wallas; Dec. 9, 1918. H. Horrocks, S. A. Young; Dec. 13, 1918. F. A. Watson; Jan. 28.
 Lieuts. (K.B.) to be Lieuts.:—T. H. Holmes; Aug. 26, 1918. R. H. Loosmore; Nov. 20, 1918.
 Lieuts. (O.) to be Lieuts.:—F. A. Whitfield; April 1, 1918. W. H. Dixon; Sept. 16, 1918. R. A. Carter; Sept. 19, 1918. A. W. James; Dec. 17, 1918. J. L. Rowe; Dec. 19, 1918. W. C. McMurray; Jan. 7.
 Sec. Lieut. S. S. Vanderhook to be actg. Lieut., whilst employed as Lieut.; Sept. 13, 1918.
 Sec. Lieuts. to be Sec. Lieuts., from (A.):—E. H. W. Darley; July 27, 1918. R. H. Mullins; Sept. 8, 1918. G. W. Habell; Sept. 11, 1918. G. Hall; Nov. 15, 1918. J. Howard; Nov. 21, 1918. G. Rogers; Jan. 15.
 Sec. Lieut. G. H. Weir to be Sec. Lieut., from (A. and S.); Oct. 4, 1918.
 Sec. Lieut. E. A. Lape is cashiered by sentence General Court-martial; Jan. 18.
 Lieut. Sir H. W. A. Ripley, Bt. (Lieut., Dgns. R. of O.), relinquishes his commn. on ceasing to be employed; Jan. 7.
 The following are transd. to unemployed list:—Capt. J. A. Carr, D.S.C.; Jan. 8. Lieut. A. G. Baker; Jan. 12. Capt. N. Barker; Jan. 18. Capt. P. J. Home-Rigg, Capt. G. Johnson; Jan. 21. Lieut. R. G. Bishop (Lieut. R., Sec. Lieut. (Hon. Capt.) R. Jagger (Capt., W. Rid. R.), Lieut. H. Lupton; Jan. 23. Sec. Lieut. H. Hollingsworth, Lieut. A. G. Lewis, Sec. Lieut. M. A. Naish; Jan. 24. Sec. Lieut. L. O. Duncan, Sec. Lieut. C. Measures; Jan. 25. Sec. Lieut. W. Clark, Sec. Lieut. A. H. Hicks, Sec. Lieut. F. Ingallton-Drake, Sec. Lieut. A. W. H. Keen, Sec. Lieut. N. H. Penny, Sec. Lieut. E. S. Ripley; Jan. 26. Sec. Lieut. J. R. Hulme, Sec. Lieut. A. A. Loveridge; Jan. 27.
 The following Sec. Lieuts. relinquish their commns. on accounts of ill-health, and are permitted to retain their rank:—R. J. Broad (contracted on active service), J. K. Douglas; Feb. 8, 1918.
 The notification in *Gazette*, Dec. 31, 1918, concerning Lieut. F. A. Barratt is cancelled.

Technical Branch.

Capt. to be Capt., Grade (A.):—G. C. E. Rualt (from Ad.); April 1, 1918. V. E. Schweitzer (from A.); Sept. 9, 1918. G. A. Richardson (from O.); Jan. 17. S. C. W. Smith (from A.); Jan. 28.
 Capt. M. B. Walker to be Capt., Grade (B.), from (A.); April 1, 1918.
 Lieut. (actg. Capt.) L. C. Bygrave retains actg. rank of Capt. while employed as Capt., Grade (A.), from (S.O.); Jan. 22.
 Lieut. A. H. Peake-Jones to be actg. Capt. while employed as Capt., Grade (A.); Jan. 1.
 Sec. Lieut. (actg. Lieut.) L. B. Clarkson retains actg. rank of Lieut. while employed as Lieut., Grade (A.), from (Ad.); Oct. 2, 1918.
 Lieut. C. V. Halford-Thompson to be Lieut., Grade (A.), from (A.); July 25, 1915.
 Lieuts. (O.) to be Lieuts., Grade (A.) (substituted for notification in *Gazette*, Jan. 21):—W. C. Cambray, M.C., R. M. D. Fairweather, (Hon. Capt.) J. R. Fasson, B. E. Gilbert, G. P. U. Hardy, F. W. Helsby, F. J. Kydd, R. M. Penman, P. R. Smith, R. A. Webster, T. Weir, A. S. White; July 11, 1918.
 Lieut. N. Haig to be Lieut. (Grade A.), from (A.); July 11, 1918 (substituted for notification in *Gazette*, Jan. 21).
 Sec. Lieut. (actg. Lieut.) H. Weakley retains the actg. rank of Lieut. whilst employed as Lieut. (Grade A.), from (Grade B.); Dec. 30, 1918.
 The following are transd. to the unemployed list:—Sec. Lieut. (actg. Lieut.) G. J. Allday, Sec. Lieut. (Hon. Lieut.) (actg. Lieut.) F. Ambler; Jan. 15. Sec. Lieut. B. J. Beach; Jan. 16. Lieut. (actg. Capt.) W. R. Carrick, Sec. Lieut. A. J. Cook, Capt. H. Hartridge, Sec. Lieut. (Hon. Lieut.) C. A. Hurst; Jan. 18. Sec. Lieut. S. Mercer; Jan. 20. Capt. J. K. Hoyle; Jan. 21. Sec. Lieut. (Hon. Lieut.) H. F. Blake, Lieut. W. G. Hunnisett, Lieut. H. H. Leage; Jan. 22. Sec. Lieut. (actg. Lieut.) C. Hammersley; Jan. 23. Sec. Lieut. H. Cutler, Sec. Lieut. H. C. Hook, Lieut. R. G. Hutchinson, Sec. Lieut. E. E. Johnson, Sec. Lieut. (Hon. Lieut.) J. J. Lovesay, Lieut. J. H. Narbeth, Lieut. C. E. Oxendale; Jan. 24. Capt. F. H. Illingworth, Sec. Lieut. V. G. Jeffreys, Sec. Lieut. (actg. Lieut.) H. W. Mason; Jan. 26. Sec. Lieut. B. R. Howell, Capt. F. Mayne; Jan. 28.
 Capt. J. T. Chitty relinquishes his commn. on account of ill-health, and is permitted to retain the rank of Capt.; Feb. 8.
 Sec. Lieut. (Hon. Lieut.) L. H. White relinquishes his commn. on account of ill-health contracted on active service, and is permitted to retain the rank of Lieut.; Feb. 8.

Medical Branch.

Lieut.-Col. J. L. Birley to be graded for pay as Lieut.-Col. (Grade A.) Oct. 1, 1918.
 Maj. A. V. J. Richardson to be actg. Lieut.-Col. while employed as Lieut.-Col.; Jan. 10.
 Majs. to be graded for pay as Majs. (Grade A.):—R. R. Fasson, E. M. W. Hearn, A. H. Hogarth, A. W. Iredell, A. V. J. Richardson; Oct. 1, 1918.
 Capt. (actg. Maj.) to be graded for pay as Maj. (Grade A.):—A. P. Bowdler, H. A. Treadgold; Oct. 1, 1918.
 Capt. to be graded for pay as Capt. (Grade A.):—H. C. Bazett, M.C., K. Biggs, D. Cameron, W. Darling, M.C., C. C. Fitzgerald, M.C., O. Gleeson, E. N. H. Gray, J. P. I. Harty, J. C. Hall, H. R. B. Hull, J. Lawson, J. H. Owen, D'Arcy Power, M.C., A. E. Panter, E. P. Punch, F. J. P. Saunders, A. R. Sharrold, J. L. Waddell; Oct. 1, 1918.
 The following are granted temp. commns. as Lieuts.:—T. E. Roberts; Jan. 27. R. D. Jones; Feb. 6.

Medical (Administrative).

L. W. Jones is granted a temp. commn. as Sec. Lieut., and to be actg. Capt. while specially employed; Oct. 18, 1918.

Chaplains' Branch.

Rev. H. D. L. Veiner, M.A. (Chaplain, R.N.), is granted a permanent commn. as Chaplain, and to be Chaplain-in-Chief with the relative rank of Brig.-Gen., Oct. 11, 1918 (substituted for notification in *Gazette*, Jan. 7).

Memoranda.

Sec. Lieut. (actg. Maj.) C. A. E. Lloyd to be Hon. Capt.
 Capt. (actg. Maj.) C. F. Gordon, O.B.E., M.C., relinquishes his staff appointment and actg. rank of Maj.; Oct. 11, 1918.

Sec. Lieut. S. G. Bates to take rank and precedence as if his appointment as Sec. Lieut. bore date Dec. 2, 1918.

Sec. Lieut. E. W. Tucker to take rank and precedence as if his appointment as Sec. Lieut. bore date Dec. 9, 1918.

The following are transd. to unemployed list:—Maj. (Hon. Col.) Sir W. R. Lawrence, G.C.I.E., G.C.V.O., C.B.; Jan. 1. Lieut. (actg. Capt.) H. Chalkley (from S.O.); Jan. 18.

London Gazette, February 11.

The following temporary appointments are made at the Air Ministry:—
Staff Officers, 2nd Class.—And to be actg. Maj. while so employed, if not already holding that rank:—Capt. (actg. Maj.) W. C. Murray; Oct. 2, 1918. Lieut. (actg. Capt.) G. G. Fairbairn; Nov. 7, 1918.

Staff Officers, 3rd Class.—And to be actg. Capt. while so employed, if not already holding that rank:—(P.) Capt. E. V. Anroemi; Jan. 8. (Q.) Lieut. G. F. Law; Jan. 8.

The rank of Lieut. E. G. Clement is as now described, and not as stated in *Gazette*, Jan. 31.

The date of appointment of Lieut. (actg. Capt.) J. Duncan is Nov. 15, 1918, and not as stated in *Gazette*, Jan. 31.

The following temporary appointments are made:—
Area Commander.—Col. (actg. Brig.-Genl.) T. I. Webb-Bowen, C.M.G., and to be actg. Maj.-Genl. while so employed, vice Maj.-Genl. F. C. Heath-Caldwell, C.B.; Feb. 1.

Staff Officers, 2nd Class (Higher Grade).—And to be actg. Maj. while so employed, if not already holding that rank:—Capt. P. C. Carr, Capt. J. L. Robertson; Nov. 7, 1918. (P.) Lieut. (actg. Capt.) H. C. Bobbett; Dec. 8, 1918.

Staff Officers, 3rd Class.—And to be actg. Capt. while so employed, if not already holding that rank:—Sec. Lieut. H. Sorrell; Dec. 11, 1918. (P.) Lieut. (actg. Capt.) H. D. A. Dart; Nov. 7, 1918. (Q.) Capt. R. G. Home; Jan. 14. (T.) Lieut. (actg. Capt.) E. E. Colquhoun, M.B.E.; Jan. 8. Lieut. K. A. Smith; Jan. 22.

Staff Officer, 4th Class (2nd Grade).—The surname of Lieut. E. A. de Sain is as now described, and not as stated in *Gazette*, Jan. 14.

Flying Branch.

Cpts. to be actg. Maj. while employed as Maj. (A.):—L. D. McKean; Sept. 1, 1918. C. Y. McDonald, A.F.C.; Nov. 16, 1918.

Cpts. to be graded for pay as Cpts. while employed as Cpts. (A. and S.):—P. H. Mackworth, D.F.C., G. M. F. O'Brien, D.S.C.; Oct. 1, 1918. R. M. Stirling; Jan. 1.

Lieuts. (actg. Cpts.) to be graded for pay as Cpts. while employed as Cpts. (A. and S.):—J. S. A. Ferguson, R. C. Tyler; Oct. 1, 1918.

Lieut. (actg. Capt.) W. Mitton retains the actg. rank of Capt. while employed as Capt. (A.), from (Ad.); Feb. 6.

Lieuts. to be actg. Cpts. while employed as Cpts. (A.):—(Hon. Capt.) C. B. J. Lancaster, (Hon. Capt.) H. H. de B. Monk, M.C., J. E. Wood; Sept. 1, 1918. W. A. de L. Y. Bainbridge, A. M. Lewis, R. L. Truelove, D. F. Woodford, R. M. H. Young; Oct. 1, 1918. J. M. Mackay (Quebec R.); Nov. 24, 1918.

Lieuts. to be actg. Cpts. while employed as Cpts. (A. and S.):—J. L. Stocks; July 24, 1918. R. W. W. Hardie; Sept. 1, 1918. J. R. Allen, G. F. Moody; Jan. 1.

Sec. Lieut. H. Hackney to be actg. Capt. while employed as Capt. (S.); Jan. 1.

Sec. Lieut. H. W. Kelly is granted the hon. rank of Lieut.; May 18, 1918.

The following relinquish their comms. on ceasing to be employed:—Lieut. W. W. Stratton (Lieut., Can. A.S.C.); Nov. 18, 1918. Lieut. J. A. McGinnis (Lieut., Sask. R.); Jan. 3. Lieut. J. R. Ziemann (Lieut., E. Ont. R.); Jan. 8, 1918. Lieut. (Hon. Capt.) J. A. Jackson (Capt., Brit. Col. R.); Jan. 10. Sec. Lieut. (Hon. Lieut.) A. Boyes (Lieut., Maintoba R.); Sec. Lieut. (Hon. Lieut.) C. A. Brown (Lieut., Quebec R.); Sec. Lieut. (Hon. Maj.) G. A. E. Chapman, D.S.O. (Maj., E. Kent R.); Jan. 11. Sec. Lieut. (Hon. Lieut.) A. W. H. Arundell (Lieut., Quebec R.); Sec. Lieut. (Hon. Lieut.) E. Bottrill (Lieut., C. Ont. R.); Lieut. C. S. Hall (Lieut., W. Ont. R.); Lieut. J. Lorimer (Lieut., Can. Res.); Sec. Lieut. (Hon. Capt.) G. T. Reid (Capt., Can. For. Corps); Sec. Lieut. (Hon. Lieut.) A. S. Robertson (Lieut., Can. F.A.); Lieut. G. H. Rogers (Lieut., E. Ont. R.); Lieut. (Hon. Capt.) M. K. Ryan (Capt., Alberta R.); Sec. Lieut. (Hon. Lieut.) R. H. Schroeder (Lieut., Brit. Col. R.); Sec. Lieut. (Hon. Lieut.) B. A. Wilson (Lieut., Brit. Col. R.); Jan. 13. Sec. Lieut. (Hon. Lieut.) A. B. Dewberry (Lieut., Can. F.A.); Lieut. R. J. Elliott (Lieut., E. Ont. R.); Sec. Lieut. (Hon. Lieut.) R. H. V. Scherk (Lieut., C. Ont. R.); Jan. 14. Sec. Lieut. (Hon. Lieut.) W. A. Meyrick (Lieut., Quebec R.); Jan. 15. Sec. Lieut. (Hon. Lieut.) G. Carmichael (Lieut., Brit. Col. R.); Lieut. T. W. McConkey (Lieut., Manitoba R.); Lieut. (Hon. Capt.) F. T. D. Steel (Capt., R.A.S.C.); Jan. 17. Sec. Lieut. N. T. Hornby (Lieut., Quebec R.); Jan. 18. Sec. Lieut. (Hon. Lieut.) W. McKay (Lieut., E. Ont. R.); Jan. 20. Sec. Lieut. (Hon. Capt.) A. S. Fraser (Capt., Dor. R.); Sec. Lieut. (Hon. Lieut.) S. W. Orr (Lieut., C. Ont. R.); Lieut. S. E. Young (Lieut., Can. Res.); Jan. 21. Lieut. G. M. Dean (Lieut., Can. F.A.); Jan. 30.

The following are transd. to Unemployed List:—Sec. Lieut. J. V. Lewis; Jan. 5. Capt. (actg. Maj.) Lord G. H. L. Dundas; Jan. 7. Maj. F. M. Ballard, Lieut. R. G. Siddaway; Jan. 11. Lieut. C. L. Silvester; Jan. 13. Lieut. J. R. Preece, Lieut. R. G. Reid, Sec. Lieut. F. W. Smith; Jan. 14. Sec. Lieut. W. G. D. MacLennan, Lieut. R. K. McConnell; Jan. 15. Sec. Lieut. C. A. Firmin, Sec. Lieut. H. R. Hughes, Sec. Lieut. E. H. Maw, Sec. Lieut. S. P. Powell; Jan. 16. Capt. (actg. Lieut.-Col.) E. A. O. A. Jamieson, A.F.C., Lieut. (actg. Capt.) W. M. Carlaw, Lieut. R. H. Cowan, Sec. Lieut. J. H. Gibson, Sec. Lieut. C. E. Reynold; Jan. 17. Sec. Lieut. (Hon. Lieut.) B. B. Davis, Sec. Lieut. A. S. MacPhail, Lieut. J. L. Nairn, Capt. P. Seymour; Jan. 18. Sec. Lieut. H. C. Turner, Capt. W. E. M. Whittaker; Jan. 19. Sec. Lieut. R. H. Mullens, Sec. Lieut. R. E. H. Springett, Capt. L. G. Wright; Jan. 20. Capt. C. G. Burnip, Sec. Lieut. P. Naylor, Maj. Hon. E. A. Stonor, Capt. R. G. Taylor, Lieut. H. W. Whale, Sec. Lieut. G. M. Whittaker, Sec. Lieut. J. Wilkinson, Lieut. B. F. Wilmer, Lieut. B. R. Worthington, D.F.C.; Jan. 21. Sec. Lieut. A. I. Dodsworth, Lieut. J. Dunbar, Sec. Lieut. H. J. Huddle, Sec. Lieut. W. H. Miller, Sec. Lieut. V. C. Moynes, Lieut. E. O. Peel, Capt. H. N. Sandys, Lieut. (actg. Capt.) A. C. Sanderson, Sec. Lieut. W. F. Smith, Lieut. G. E. Taylor; Jan. 22. Lieut. G. B. Anderson, Lieut. B. B. Halleck, Sec. Lieut. R. W. Jones, Sec. Lieut. H. W. Pope, Lieut. A. H. Read, Sec. Lieut. B. S. Sylvester, Sec. Lieut. C. M. Whitham; Jan. 23. Sec. Lieut. S. O. B. Bagnall, Sec. Lieut. T. H. Carter, Lieut. J. S. Curtis, Lieut. F. A. N. Duk, Lieut. E. A. Gay, Lieut. A. T. D. Glabholm, Sec. Lieut. A. D. Hadden, Lieut. F. N. Katzin, Sec. Lieut. J. T. D. Margrave, Sec. Lieut. R. B. Maxwell, Lieut. D. S. T. Pettitt, Sec. Lieut. A. F. Welch; Jan. 24. Lieut. E. O. Danger, Sec. Lieut. O. R. Llyn, Lieut. N. Garland, Lieut. L. M. Glover, Sec. Lieut. G. R. Mason, Lieut. D. MacLaren, Sec. Lieut. R. Newton, Sec. Lieut. W. Pollock; Jan. 25. Lieut. C. H. Dixie, Lieut. L. Del Nevo, Capt. I. A. J. Duff, M.C. (Dor. R.); Sec. Lieut. A. Le Gault; Jan. 26. Lieut. W. E. Bryan, Sec. Lieut. B. C. Dupont, Lieut. H. P. Elliott, Lieut. G. Hudson, Lieut. N. W. Jackson, Sec. Lieut. J. F. Lyon; Jan. 27. Lieut. E. J. Detmold, Sec. Lieut. A. G. Hatten, Sec. Lieut. J. Hague, Lieut. P. E. G. Heffer, Lieut. F. W. Keddie, Lieut. H. Kendall, Lieut. F. Nash, Sec. Lieut. H. T. Perkins, Sec. Lieut. G. N. Poole; Jan. 28. Sec. Lieut. J. L. Dwyer, Sec. Lieut. C. A. Giddings, Sec. Lieut. R. N. Gosling, Sec. Lieut. L. W. Greenwood, Sec. Lieut. R. C. Pether,

Sec. Lieut. W. T. Poole; Jan. 29. Sec. Lieut. P. Pilkington; Jan. 30. Lieut. (actg. Capt.) T. C. Annan (Arg. and Suth. Highrs.), Lieut. J. M. Faulks, Sec. Lieut. G. M. Fanelli, Capt. W. R. E. Harrison, Lieut. G. W. Lavington, Sec. Lieut. C. M. K. Morrison, Sec. Lieut. P. C. Saxby; Jan. 31. Lieut. D. C. Kinmond, Sec. Lieut. L. C. Pallett; Feb. 2. Lieut. J. H. Dewhurst, Sec. Lieut. (Hon. Lieut.) J. C. McIlroy; Feb. 4. Sec. Lieut. G. W. Kitchen; Feb. 5. Sec. Lieut. S. E. Minrath; Feb. 9. Sec. Lieut. R. Rifkin; Feb. 10.

Capt. H. C. Barber relinquishes his comms. on account of ill-health, and is permitted to retain his rank; Feb. 12.

The following Lieuts. relinquish their comms. on account of ill-health, and are permitted to retain their rank:—A. F. Barker (Hamps. R.), H. Blofeld, M.C. (contracted on active service), G. G. Campbell (contracted on active service), P. F. Clayton, R. J. Cullen (R. Highrs., T.F.) (contracted on active service), G. D. Falkenberg (contracted on active service), S. C. Mimmack (contracted on active service), D. W. Pratt (contracted on active service); Feb. 12.

Lieut. J. S. Jones, M.C., relinquishes his comms. on account of ill-health; Feb. 12.

The following Sec. Lieuts. relinquish their comms. on account of ill-health, and are permitted to retain their rank:—G. Bradbury (caused by wounds), H. S. Dudson, S. R. Norcott (contracted on active service), S. F. B. Pile, F. C. Phillips; Feb. 12.

Sec. Lieut. (Hon. Lieut.) T. T. Morton (Lieut., W. Yorks R.) relinquishes his comms. on account of ill-health; Feb. 12.

Sec. Lieut. R. L. Uden is antedated in his appointment as Sec. Lieut. (A.), with effect from July 9, 1918.

The initials of Lieut. (actg. Capt.) F. T. Muncey are as now described, and not as stated in *Gazette*, Jan. 21; the surname of Sec. Lieut. F. E. W. Davis is as now described, and not as in *Gazette*, Jan. 21.

The initials of Lieut. J. O. Barclay are as now described, and not as in *Gazette*, Jan. 21.

The notification in *Gazette*, Oct. 11, 1918, concerning Lieut. (actg. Capt.) W. H. Buckridge is cancelled (substituted for notification in *Gazette*, Jan. 21).

The notification in *Gazette*, Jan. 24, concerning Lieut. G. F. Davies is cancelled.

Administrative Branch.

Maj. A. C. E. S. Bowlby to be Maj., from (T.); April 1, 1918.

Capt. H. W. R. Hasehurst to be actg. Maj. while employed as Maj. April 1, 1918.

Capt. R. Goudie to be Capt., from (A.); Sept. 19, 1918.

Lieut. (actg. Capt.) D. L. P. S. Stuart-Shepherd, D.F.C., retains the actg. rank of Capt. while employed as Capt., from (A.); Nov. 27, 1918.

H. M. Seton-Karr (Capt., L. Gds. and M.G.C.), is granted a temp. comms. as Capt.; Oct. 9, 1918 (with seniority from April 1, 1918).

Lieuts. to be actg. Cpts. while employed as Cpts.:—(Hon. Capt.) H. M. Parsons, from (O.); July 15, 1918. (Hon. Capt.) C. W. A. Millar; Sept. 28, 1918. E. H. A. Lockwood; Oct. 24, 1918. R. F. Hamlyn; Dec. 1, 1918.

L. Abraham; Jan. 1. (Hon. Capt.) J. R. Croxford; Jan. 22.

Sec. Lieuts. to be actg. Cpts. while employed as Cpts.:—A. G. Adams June 1, 1918. (Actg. Lieut.) C. T. Johnson, (actg. Lieut.) I. Wardle; Jan. 1. (Hon. Capt.) W. C. Green, M.C., from (T.); Jan. 20.

R. Gambier-Parry (Lieut., R. Welsh Fus.) is granted a temp. comms. as Lieut.; Aug. 29, 1918 (with seniority from April 1, 1918).

H. R. Edwards (Lieut., R.F.A.) is granted a temp. comms. as Lieut.; Nov. 15, 1918 (substituted for notification in *Gazette*, Nov. 26, 1918).

Lieuts. (A.) to be Lieuts.:—T. Aitken; Aug. 14, 1918. D. A. Parker; Sept. 12, 1918. A. E. Alderton; Oct. 30, 1918. G. P. Leitch; Nov. 4, 1918. C. Saunders; Nov. 19, 1918. R. N. H. Hughman; Nov. 25, 1918.

D. M. Pinkerton; Nov. 26, 1918. H. B. Hudson, M.C.; Dec. 4, 1918. D. R. Griffiths, R. G. R. Townsend; Dec. 17, 1918. M. S. Faraday, E. R. Seymour; Dec. 19, 1918. L. H. Wrightmeyer; Dec. 20, 1918.

Lieuts. (O.) to be Lieuts.:—T. N. Robinson; Oct. 31, 1918. H. L. Walter; Dec. 4, 1918. D. N. Brampton, M.C.; Jan. 3.

Sec. Lieuts. to be actg. Lieuts. whilst employed as Lieuts.:—A. E. Houghton; July 27, 1918. W. R. Taylor; Aug. 28, 1918. L. M. Moss; Sept. 21, 1918. R. K. McLean, M.B.E.; Oct. 1, 1918. E. Powell; Dec. 1, 1918.

F. T. L. Avis, F. C. Bird, E. G. Boone, W. G. Chate, F. W. Healey, L. J. Marden, J. L. Saxton; Jan. 1.

The following are transd. to Unemployed List:—Sec. Lieut. C. A. Broadhurst; Jan. 13. Sec. Lieut. N. R. Rice; Jan. 15. Lieut. T. C. Morgan; Jan. 19. Sec. Lieut. F. V. Mataraly; Jan. 20. Capt. N. G. Hodson, Sec. Lieut. B. H. Moore; Jan. 22. Sec. Lieut. S. T. Phillips; Jan. 23. Lieut. C. G. H. Smith; Jan. 24. Sec. Lieut. C. E. Eastwood, Sec. Lieut. W. H. Evans, Lieut. (Hon. Capt.) J. Milne (Leic. R. T.F.), Sec. Lieut. T. B. Nelson; Jan. 25. Sec. Lieut. R. W. Forsyth, Sec. Lieut. C. H. Green, Sec. Lieut. A. T. S. Grigsby; Jan. 26. Lieut. Sir C. S. Kirkpatrick, Bt., Sec. Lieut. T. H. Lamb, Sec. Lieut. (actg. Capt.) M. M. Merriman, Sec. Lieut. K. C. H. Newman; Jan. 28. Sec. Lieut. T. L. Gulliver, Sec. Lieut. L. C. Maitland, Sec. Lieut. S. G. Menell, Sec. Lieut. G. B. Newton (Lond. R.); Jan. 29. Sec. Lieut. P. A. P. Monaghan, Capt. A. C. Osborne; Jan. 30. Sec. Lieut. D. A. McCallum; Feb. 1.

The following Lieuts. relinquish their comms. on account of ill-health:—E. H. Maddick (Lieut., W. Kent R.) (contracted on active service), (Hon. Capt.) J. Milne (R. Scots), C. D. Soman (North'd Fus.); Feb. 12.

Sec. Lieut. C. J. Donnellan relinquishes his comms. on account of ill-health, and is permitted to retain his rank; Feb. 12.

The notification in *Gazette*, Dec. 13, 1918, concerning Lieut. (Hon. Capt.) G. Prater is cancelled.

Technical Branch.

Maj. T. F. C. Strubell to be Maj. (Grade A.), from (S.O.); June 26, 1918 (substituted for notification in *Gazette*, Aug. 6, 1918).

Cpts. to be actg. Maj. while employed as Maj.:—D. P. Geddes (Grade A.), W. G. C. Munsie (Grade B.); N v. 1, 1918. W. E. L. Seward, M.C.; Nov. 4, 1918.

The following are granted temp. comms. as Cpts. (Grade B.):—C. M. Alport (Lieut., R. Highrs.) (substituted for notification in *Gazette*, Nov. 29, 1918). H. C. Kinred (Lieut., Glouc. R.); (May 24, 1918).

Lieuts. to be actg. Cpts. while employed as Cpts. (Grade A.):—H. F. Groves; Aug. 16, 1918. E. S. Steddy; Dec. 10, 1918. F. W. Brooks; Jan. 1.

Lieuts. to be actg. Cads. while employed as Cpts. (Grade B.):—J. A. Atkinson; June 1, 1918. D. R. Smith (Quebec R.); Aug. 1, 1918. R. Gregory, M.C.; Aug. 19, 1918. H. L. Waddington; Nov. 1, 1918. (Hon. Capt.) F. Grave, from (Ad.), F. W. Partington; Dec. 1, 1918. A. R. B. Gill; Jan. 1.

Sec. Lieuts. to be actg. Cpts. whilst employed as Cpts. (Grade A.):—(Actg. Lieut.) H. P. Leigh; Aug. 20, 1918. H. H. Kilber; Sept. 3, 1918. (Hon. Capt.) C. G. Bannister; Oct. 2, 1918. J. A. Atkinson; Dec. 10, 1918.

Sec. Lieuts. (actg. Lieuts.) to be actg. Cpts. whilst employed as Cpts. (Grade B.):—H. St. C. Roy, M.C.; Aug. 31, 1918. P. H. Morrish; Sept. 21, 1918.

Lieut. G. M. Roberts to be Lieut. (Grade B.), from (A. and S.); Nov. 21, 1918 (substituted for notification in *Gazette*, Dec. 13, 1918).

Lieut. F. W. Brooks to be graded for pay as Lieut. (Grade A.) whilst employed as Lieut.; Oct. 7, 1918.

Lieut. C. M. Bevan to be graded for pay as Lieut. (Grade B.) whilst employed as Lieut.; Oct. 7, 1918.

Lieuts. to be Lieuts. (Grade A.):—S. Power, from (O.); Nov. 26, 1918. B. S. Higgs, from (Grade B.); Dec. 24, 1918 (substituted for notification in *Gazette*, Jan. 10).

Lieut. L. Rawnsley to be Lieut. (Grade B.), from (A.); Oct. 3, 1918. Lieuts. (Ad.) to be Lieuts. (Grade B.):—S. R. L. Poole, M. Walker; Jan. 21.

Sec. Lieuts. to be actg. Lieuts. whilst employed as Lieuts. (Grade A.):—R. E. H. Heenan; Aug. 1, 1918. J. W. Caddy, S. T. Littleton; Oct. 1, 1918. P. B. Barlow (Hon. Lieut.) R. E. Moore; Oct. 7, 1918. H. Little; Dec. 1, 1918.

Sec. Lieuts. to be actg. Lieuts. whilst employed as Lieuts. (Grade B.):—T. G. Boyland, S. Curzon, J. T. Williams; Oct. 1, 1918. H. D. Torres; Nov. 1, 1918. W. Warwick; Nov. 30, 1918. A. W. R. Trusler, F. Wheatcroft, from (Ad.); Dec. 31, 1918.

The following are transd. to Unemployed List:—Sec. Lieut. C. G. Nops; Jan. 13. Sec. Lieut. E. E. Lewis; Jan. 14. Lieut. F. A. Mills; Jan. 4. Sec. Lieut. W. P. F. Bisgood, Sec. Lieut. (actg. Lieut.) W. B. Morison; Jan. 17. Lieut. A. B. Blayney, Sec. Lieut. (actg. Lieut.) A. E. Millson; Jan. 18. Sec. Lieut. C. Elwell; Jan. 19. Lieut. R. B. Robinson; Jan. 20. Sec. Lieut. (Hon. Lieut.) R. Law; Jan. 22. Sec. Lieut. W. J. Lawrence; Jan. 23. Sec. Lieut. D. Wright; Jan. 24. Sec. Lieut. A. H. Angwin, Lieut. W. Calver; Jan. 25. Lieut. A. Chappie, Capt. H. Colbourne, Sec. Lieut. J. N. Duthoit, Lieut. M. C. Evans, Sec. Lieut. J. J. Hegan, Capt. B. E. J. Petre, Sec. Lieut. G. L. Platfoot; Jan. 25. Lieut. A. F. Elliott, Sec. Lieut. (Hon. Lieut.) W. R. Gundry, Sec. Lieut. H. T. Mackie, Capt. E. R. Moxey, Sec. Lieut. J. O. Pakeman; Jan. 28. Capt. H. B. FitzHerbert, Capt. G. S. Hall, Sec. Lieut. (Hon. Lieut.) A. C. C. Rawlins; Jan. 30. Sec. Lieut. R. G. B. Blanchard, Lieut.-Col. A. C. Bishop, Capt. W. Evans, Sec. Lieut. W. P. Farrow, Sec. Lieut. F. L. G. Ghisi; Jan. 31. Lieut. R. J. Fetherston, Maj. R. E. Goddard, Lieut. C. F. Overy; Feb. 1.

Lieut. W. Moulding relinquishes his commn. on account of ill-health and is permitted to retain his rank; Feb. 12. Sec. Lieut. H. S. Graves resigns his commn. to resume his medical studies, and is permitted to retain his rank; Feb. 12.

Physical Training Branch.

Capt. A. F. Marlowe to be graded for pay as Lieut. whilst employed as Lieut., from (A.); Nov. 27, 1918.

Medical Branch.

Capt. to be graded for pay as Capt. (Grade B, Rate 1):—A. A. Atkinson, W. H. H. Bennett, R. E. Bell, H. S. Baker, R. D. Goldie, J. J. C. Hamilton, F. C. Kempson, J. M. Kirkness, A. MacLennan, J. A. Parsons, F. Roberts, C. P. C. Sargent, A. Scott-Turner, C. J. G. Taylor, C. Webb, N. R. Williamson; Oct. 1, 1918.

A. E. P. Parker (Temp. Surg., R.N.) is granted a temp. commn. as Capt.; Dec. 12, 1918, with seniority from April 1, 1918.

Capt. H. C. Bazett, M.C., M.B., F.R.C.S. (R.A.M.C., S.R.) is transd. to Unemployed List; Feb. 2.

Chaplains Branch.

Rev. J. W. G. Pearse (T. Chap. to the Forces, 4th Class, A.C.D.) is granted a temp. commn. as Chaplain, with the relative rank of Capt.; Feb. 7.

Memoranda.

Capt. G. M. B. Dobson to be actg. Maj. whilst holding a special appointment at the Ministry of Munitions; Dec. 3, 1918.

Sec. Lieut. A. H. Turner, A.P. (T.), to be Lieut. (without the pay and allowances of that rank); Jan. 27.

The following are transd. to Unemployed List, from (S.O.):—Capt. A. L. Butcher, Sec. Lieut. (actg. Capt.) P. E. Negretti; Feb. 1. Capt. (actg. Lieut.-Col.) H. E. A. Lindsay, O.B.E.; Feb. 3. Capt. J. W. Cole; Feb. 4.

Lieut. (actg. Capt.) J. E. Wain relinquishes his commn. on account of ill-health contracted on active service, and is permitted to retain the rank of Capt.; Feb. 12.

London Gazette, Feb. 14.

The following temporary appointment is made at the Air Ministry:—Staff Officer, 3rd Class (P.)—Lieut. (actg. Capt.) H. G. Stuart, M.C., and to retain the actg. rank of Capt. while so employed; Nov. 10, 1918.

The following temporary appointments are made:—Staff Officer, 1st Class.—Lieut.-Col. G. R. Bromet, D.S.O., O.B.E., vice Capt. (actg. Lieut.-Col.) F. S. Isaac; Feb. 4.

Staff Officer, 3rd Class. (Q.)—Maj. M. Marsden; Jan. 22.

Flying Branch.

Capt. (actg. Maj.) C. J. Galpin, D.S.O., retains the actg. rank of Maj. while employed as Maj. (A. and S.), from S.O.; Jan. 6. Capt. H. A. Westerdar to be actg. Maj. while employed as Maj. (A.); Jan. 17.

Lieuts. to be actg. Capt. while employed as Capt. (A.):—H. T. Lydford, R. T. B. Houghton, N. McLeod, J. J. A. Thompson; Aug. 15, 1918. F. L. Atkinson; Sept. 1, 1918. J. R. Moore, A.F.C.; Oct. 1, 1918. A. L. Paxton, A. R. Walker; Nov. 1, 1918. H. V. Pendavis, D.S.O.; Dec. 17, 1918.

Lieuts. (O.) to be Lieuts. (A.):—L. H. Mackay; Nov. 17, 1918 (substituted for notification in *Gazette* Dec. 10, 1918. P. C. Taylor; Dec. 30, 1918.

Lieut. E. J. Mott (late Gen. List, R.F.C., on prob.) is confirmed in his rank as Lieut. (A.); Oct. 16, 1918.

Lieut. W. A. Clark to be Lieut. (O.), from (A.); April 1, 1918.

The following Sec. Lieuts. (late Gen. List, R.F.C., on prob.) are confirmed in their ranks as Sec. Lieuts. (A.):—E. R. H. Pretlove; June 1, 1918 (substituted for notification in *Gazette* Nov. 8, 1918. W. G. Watson; June 5, 1918. C. J. C. Sheridan; July 31, 1918. T. H. Pearson; Aug. 28, 1918. C. Longland, V. O. Hazeldine, R. R. Martin, J. L. Gillman, W. Leithead, R. W. Norris (since killed); Oct. 12, 1918. P. W. Atkins; Oct. 28, 1918. F. Pyle; Nov. 9, 1918.

The following are granted temporary commissions as Sec. Lieuts. (A.):—G. L. Blaine (Capt., S.A. Inf.), and to be Hon. Capt.; July 8, 1918. G. H. Rogers (Lieut., E. Ont. R., C.E.F.), and to be Hon. Lieut., F. Neal (Sec. Lieut., Hert. R., T.F.); Sept. 25, 1918. R. M. Fletcher (Lieut., Lond. R., T.F.), and to be Hon. Lieut.; Sept. 29, 1918. S. H. Wells (Temp. Sec. Lieut., R. Fus.); Nov. 5, 1918. S. Rawlings (Temp. Sec. Lieut., Essex. R.); Nov. 9, 1918.

The following Prob. Flight Officers (late R.N.A.S.) are granted temp. commns. as Sec. Lieuts. (A.):—A. G. Ward; June 2, 1918. A. R. Heaver; June 15, 1918. E. G. Gallagher; July 12, 1918. V. D. Wethered; Oct. 15, 1918.

Prob. Flight Officer E. Hudson (late R.N.A.S.) is granted a temp. commn. as Sec. Lieut. (A. and S.); June 4, 1918.

M. M. Grice (Lieut., North'd. Fus., T.F.) is granted a temp. commn. as Sec. Lieut. (K.E.), and to be Hon. Lieut.; Aug. 8, 1918.

The following Sec. Lieuts. (late Gen. List, R.F.C., on prob.) are confirmed in their rank as Sec. Lieuts. (Obs. Officers):—W. R. Jackson; May 31, 1918. H. D. Buchanan, G. Windle; July 15, 1918. W. Smith; Sept. 30, 1918 (date of 1st commn. Feb. 21, 1918). D. J. C. Hutton; Oct. 18, 1918.

The following are granted temp. commns. as Sec. Lieuts. (O.):—D. G. J. Odum (Temp. Lieut., Manch. R.), and to be Hon. Lieut., V. Brent (Temp.

Lieut., Middx. R.), and to be Hon. Lieut., M. A. Watney (Lieut., Gen. List), and to be Hon. Lieut.; April 1, 1918. J. T. White (Sec. Lieut., Notts. and Derby. R. (T.F.)); April 4, 1918 (substituted for notification in *Gazette*, Jan. 14. W. A. Winter (Lieut., Canadian Eng., C.E.F.), and to be Hon. Lieut.; April 4, 1918. A. E. Evans (Sec. Lieut., E. Surr. R.); April 5, 1918. D. Henderson (Temp. Sec. Lieut., Sea Highrs.), H. Sainsbury (Lieut., E. Lancs. R., T.F.), and to be Hon. Lieut., O. A. Broomhall (Lieut., L'pool. R., T.F.), and to be Hon. Lieut.; April 12, 1918. F. H. Stock (Temp. Sec. Lieut., R.W. Kent R.); April 20, 1918. W. Cooke (Temp. Lieut. W. Yorks. R.), and to be Hon. Lieut.; May 20, 1918. J. D. Le Grove (Temp. Lieut., W. Yorks. R.), and to be Hon. Lieut., W. R. Trounce (Temp. Lieut., Glouc. R.), and to be Hon. Lieut., S. I. R. B. Simmons (Lieut., Lond. R., T.F.), and to be Hon. Lieut., G. L. Warner (Lieut., Quebec R., C.E.F.), and to be Hon. Lieut.; May 22, 1918. G. G. Harris (Temp. Lieut., R.F.A.), and to be Hon. Lieut.; May 25, 1918. P. Pickering (Lieut., R.F.A., T.F.), and to be Hon. Lieut.; May 27, 1918. F. J. Burton (Lieut., Army Cyclist C., T.F.), and to be Hon. Lieut.; June 1, 1918. L. G. Taylor (Sec. Lieut., Manch. R., T.F.); June 5, 1918. F. A. Lawson (Temp. Sec. Lieut., R. W. Fus.), W. J. Mills (Temp. Sec. Lieut., North'd. Fus.), J. H. Blascheck (Sec. Lieut., R.F.A., S.R.); June 14, 1918. W. Woodstock (Sec. Lieut., R.F.A., S.R.); June 20, 1918. L. A. Clack (Temp. Sec. Lieut., York. L.I.); July 18, 1918. R. E. Higginson (Sec. Lieut., Lan. Fus., S.R.), L. E. T. Burley (Temp. Sec. Lieut., Durh. L.I.), J. B. Appleton (Lieut., A. Cyclist Corps, T.F.), and to be Hon. Lieut.; Aug. 8, 1918. R. Hayward (Temp. Sec. Lieut., N. Staff. R.); L. J. Hoare (Temp. Sec. Lieut., Yorks. R.), W. D. F. Liston (Lieut., I.A.R.O.), and to be Hon. Lieut., J. Platt (Temp. Sec. Lieut., R. Dub. Fus.), E. Lawson (Lieut., R. Highrs., T.F.), and to be Hon. Lieut., W. A. Manson (Sec. Lieut., Gord. Highrs., T.F.); W. J. Porter (Sec. Lieut., Gord. Highrs., T.F.), R. G. Saunderson (Lieut., R.F.A., S.R.), and to be Hon. Lieut., G. H. Simister (Temp. Sec. Lieut., Welsh. R.); Oct. 18, 1918. A. F. Harris (Sec. Lieut., Hamp. R., T.F.) J. E. Pereira (Sec. Lieut., I.A.R.O.), M. C. Bulteel (Capt., R. Scots. S.R.), and to be Hon. Capt.; Oct. 25, 1918. G. A. Body (Sec. Lieut., E. Kent R., T.F.), N. Burke (Temp. Sec. Lieut., Oxf. and Bucks. L.I.), S. Moyles (Temp. Sec. Lieut., R. Dub. Fus., att'd. W. Rid. R.), R. C. Williams, Sec. Lieut. S. W. Bord (S.R.), D. Thomson (Temp. Sec. Lieut., Manch. R.); Nov. 3, 1918.

Prob. Flight Officer W. T. Ward (late R.N.A.S.) is granted a temp. commn. as Sec. Lieut. (Obs. Offr.); May 27, 1918.

The following Prob. Flight Officers (late R.N.A.S.) are granted temp. commns. as Sec. Lieuts. (S.):—R. W. Jones; June 14, 1918. K. P. Kirkwood; July 12, 1918.

The following Flight Cadets are granted temp. commns. as Sec. Lieuts. (A.) (substituted for notification in *Gazette*, Dec. 6, 1918):—137973 L. Buckley-Bridge, 137984 A. P. K. Hattersley, 137997 F. N. Quay; May 28, 1918. 110903 Flight Cadet E. A. F. Wilding is granted a temp. commn. as Sec. Lieut. (A.); June 28, 1918 (substituted for notification in *Gazette*, Nov. 26, 1918).

The following Flight Cadets are granted temp. commns. as Sec. Lieuts. (A.):—137989 F. C. McConnell, 137991 H. A. M. Miller; May 28, 1918. 137983 G. P. Hendrickze, 137976 L. E. Brockman, 137975 E. Bernstein; May 29, 1918. 137992 T. O. Morgan; June 11, 1918. 137978 J. Carter; June 28, 1918. 184887 E. S. Bowman, 184943 R. A. Lund, 184953 J. H. A. Mollison, 184942 J. T. A. Lochner; July 23, 1918. 184946 G. E. Martenssen; Aug. 8, 1918. 1858 L. C. Ennis; Aug. 12, 1918. 184995 C. P. Wiseman; Aug. 18, 1918. 184900 D. W. de Kock, 128204 N. H. Muir; Aug. 23, 1918. 100578 W. D. C. Hutton; Aug. 29, 1918. 94882 W. D. Wood, 94787 O. F. G. Crosby, 528055 F. H. V. Nostrand; Aug. 31, 1918. 29716 J. W. New, 57526 E. A. Roberts; Sept. 19, 1918. 184960 R. H. Picot; Sept. 29, 1918. 184896 W. A. Darwell; Oct. 3, 1918. 184901 G. Dismore, 94013 D. W. Giles, 500523 S. J. Perry; Oct. 12, 1918. W. W. Pike; Oct. 13, 1918. 1878 R. F. B. Caukwell; Oct. 16, 1918. 260383 N. Ferrand, 110889 J. E. Stevens, W. Shorrocks; Oct. 17, 1918. 281120 C. F. Waudby, 26062 J. C. Garner, 6100 A. W. Hughes; Oct. 13, 1918. 706469 H. J. Palmer, 260173 S. A. Williams, 290270 G. H. Demaine, H. 260113 H. E. Lines, S. 7233 B. G. Whatmough; Oct. 19, 1918. 295940 J. B. Bushe, 2383 F. Dummer, 586 D. M. McArthur, 36860 S. B. Milner; Oct. 21, 1918. R. 42351 S. H. Emerson, M2/152607 T. E. White, 511673 C. H. Friese-Greene; Oct. 22, 1918. 240799 T. A. Bowditch, H. 325705 R. J. Browning, 200383 H. E. Blades, 66198 H. P. Moore, 161752 J. P. Gourlay, 110579 J. A. T. Bryant, G. 22960 E. Pendlebury, 184989 H. R. A. P. Watson; Oct. 23, 1918. 320260 H. E. Whiteman; Oct. 24, 1918. 02608 A. Craig, 275005 J. Harston; Oct. 26, 1918. M2/153563 A. B. Jones, 50764 M. B. Glover; Oct. 27, 1918. 236437 R. Ellis; Oct. 28, 1918. 321090 H. Ward; Oct. 20, 1918. 784016 W. R. Godard; Oct. 30, 1918. 966777 J. T. Newton, 275051 A. E. Elliott, 14960 E. H. Puckering, 012617 A. Sutton, S. 33668 S. J. Alderson, TR/5/90163 L. J. Hall, 78908 S. T. Price, 25814 E. Bird, 70354 F. F. McNeil; Oct. 31, 1918. H. Jowett; Nov. 3, 1918. 345156 E. C. Roberts, 624822 G. E. Pratt, 290505 H. S. Hatton; Nov. 5, 1918. 320049 G. C. Lacey, 184882 A. H. Bell, 184890 R. D. Calvert, 184983 V. Thelwall, 184996 F. H. Yeo; Nov. 6, 1918. 355316 W. E. Sanger, S. 6243 T. W. Minihane, 818 M. J. McKessack, 3/27168 J. Evans; Nov. 7, 1918. 9625 E. S. Smyth; Nov. 8, 1918. 552190 G. R. Whamond, 315152 H. V. A. Salter; Nov. 9, 1918. 96487 A. B. Lumb, 735382 J. Formstone, 25856 W. J. Allan; Nov. 10, 1918.

The following Flight Cadets are granted temp. commns. as Sec. Lieuts. (A. and S.):—9710 C. S. Van-der-Poel; June 22, 1918. 128203 G. E. Lavin; June 28, 1918. 128262 E. O. Korner; Aug. 31, 1918. 137953 I. F. Stott; Sept. 28, 1918. 137872 A. F. Nelson; Oct. 26, 1918. H. L. Lucena; Nov. 2, 1918. 117648 D. Walker; Nov. 10, 1918.

The following Flight Cadets are granted temp. commns. as Sec. Lieuts. (A'ship):—J. Sproston; July 23, 1918 (substituted for notification in *Gazette* Oct. 1, 1918). R. Bond; Aug. 21, 1918. 236757 R. J. Chapman, 767205 C. A. Hopkins; Nov. 7, 1918.

The following Flight Cadets are granted temp. commns. as Sec. Lieuts. (Obs. Officers):—96040 G. W. A. Onions; May 13, 1918 (substituted for notification in *Gazette* Aug. 2, 1918. 134926 L. D. Jacobs, 184980 A. J. Storm; July 23, 1918. 137880 S. A. Pindar; Aug. 24, 1918. 128660 J. Hogg; Aug. 31, 1918. 83043 L. Scholes; Sept. 2, 1918. 175869 G. H. Lunn, 175210 W. H. Phethean; Sept. 3, 1918. 30268 E. C. W. Bray; Oct. 10, 1918. 31999 F. H. Gill, 01928 E. W. Harriott, 9148 G. H. Metcalfe, 27065 E. E. Salmon; Oct. 19, 1918. L. W. Hopkins, W. A. Westcott; Oct. 23, 1918. 175516 A. S. Farquhar, 173527 W. Porter; Oct. 25, 1918. 200661 G. H. Price, 700354 S. W. J. Ward, 152230 L. J. Betts; Oct. 20, 1918. 551419 G. L. Cox; Oct. 27, 1918. 178934 S. D. Spalding, 158075 G. A. Dover, 240880 J. McGrail; Nov. 2, 1918. 117480 G. M. Strachan, 178692 F. P. Hodgson, 838286 R. A. Crecine; Nov. 3, 1918. 265438 N. H. Haylock, 100571 W. F. Jagger; Nov. 6, 1918. 176441 L. W. Tyrrell, 137661 H. O. Brown, 178002 H. D. Clacher, 177919 C. W. Christie, 128877 N. A. S. Kelly, 863 K. D. McClure, 177642 H. H. Robbins, A. B. Newman; Nov. 8, 1918. 3313 F. G. Thomas, 176186 G. N. Malcolm, 175809 O. S. Evans, 265225 A. Burns, G. F. Ward; Nov. 9, 1918.

The following Flight Cadets are granted temp. commns. as Sec. Lieuts. (S.):—110861 C. J. McFadden; July 13, 1918 (substituted for notification in *Gazette*, Nov. 22, 1918. 12244 K. R. Goodacre; Sept. 27, 1918. 535069 F. C. Maughan; Oct. 10, 1918. T. C. Becker; Oct. 22, 1918. 19801 W. R. Godard; Oct. 23, 1918.

Lieut. L. D. Adams is removed from the Service for absence without leave; May 19, 1918.

Lieut. H. L. Tighe is cashiered by sentence of a General Court-martial; Jan. 21.

The following relinquish their commns. on ceasing to be employed:—Lieut. N. R. Murphy (Lieut., Quebec R.); Sept. 14, 1918. Sec. Lieut. (Hon. Lieut.) F. C. Kent (Lieut., Sask. R.); Dec. 6, 1918. Lieut. G. M. Dean (Lieut., Can. F.A.); Dec. 30, 1918. Sec. Lieut. M. R. Dickinson (Sec. Lieut., Middx. R.); Jan. 3. Lieut. J. I. Bundy (Lieut., Can. M.G.C.); Jan. 4. Lieut. (Hon. Capt.) M. H. Park (Capt., E. Ont. R.); Jan. 7. Sec. Lieut. A. A. Campbell (Lieut., Can. Corps); Lieut. T. R. Scott (Lieut., Can. Corps); Jan. 12. Lieut. A. H. Pannill (Lieut., E. Ont. R.); Sec. Lieut. (Hon. Lieut.) J. L. Sutherland (Lieut., C. Ont. R.); Jan. 13.

The following are transf'd to unemployed list:—Lieut. S. R. Mantle; Jan. 10. Lieut. W. R. Hibbins; Jan. 11. Sec. Lieut. S. N. Jacobson; Jan. 16. Lieut. (Hon. Capt.) H. R. Jones, Sec. Lieut. (Hon. Capt. G. Mitchell, Lieut. P. C. Simmons, Sec. Lieut. C. H. Sims, Sec. Lieut. W. J. Weir; Jan. 17. Lieut. F. W. Bethell, Sec. Lieut. J. F. White; Jan. 18. Lieut. A. Alexander, Lieut. W. K. Crewe; Jan. 10. Sec. Lieut. D. F. E. Whitehouse, Lieut. P. S. Williams; Jan. 20. Lieut. J. Balfour, Capt. R. W. Lane, Lieut. R. G. Sellars, Lieut. A. G. Tremain, Lieut. R. Wilson, Sec. Lieut. V. D. Wethered; Jan. 21. Sec. Lieut. W. F. Abbott, Sec. Lieut. E. S. Bale, Capt. J. R. Crouch, D.S.C., Sec. Lieut. G. M. Morrison, Sec. Lieut. A. Smith, Lieut. H. H. Stutard, Sec. Lieut. C. E. V. Taylor; Jan. 22. Lieut. F. J. Buckland, Sec. Lieut. R. G. Burns, Lieut. P. W. Cunliffe, Sec. Lieut. C. R. Sharpe, Capt. L. Tweedie-Smith (E. Surr. R.); Sec. Lieut. W. West, Lieut. W. Wilkinson (W. York. R.); Jan. 23. Sec. Lieut. J. B. Davies, Lieut. B. P. Russell, Lieut. L. H. Thomas; Jan. 24. Sec. Lieut. (Hon. Capt.) R. D. Blackman, Lieut. E. G. Boulenger, Sec. Lieut. W. E. China, Capt. (actg. Maj.) T. F. Morris, Lieut. C. C. Summers; Jan. 25. Sec. Lieut. G. O. Anderson, Lieut. J. E. England, Sec. Lieut. T. E. Hilton; Jan. 26. Sec. Lieut. H. N. Bostock, Sec. Lieut. J. Carlisle, Sec. Lieut. W. T. Watson; Jan. 27. Sec. Lieut. R. G. Alderson, Lieut. J. G. Duff (R. Innis. Fus.), Sec. Lieut. H. W. Ford, Lieut. C. L. Fraser, Sec. Lieut. K. B. Gibb; Jan. 28. Lieut. (actg. Capt.) V. Beecroft, Sec. Lieut. H. A. Coysh, D.F.C. (R.G.A., S.R.), Sec. Lieut. J. E. S. Dunham, Sec. Lieut. A. Holden, Sec. Lieut. P. Jackson, Lieut. A. E. Murrell, Lieut. A. N. Pitchford, Lieut. C. B. Rait; Jan. 29. Capt. (actg. Maj.) J. O. Galpin, D.S.C., D.F.C., Lieut. J. A. Higham, Lieut. (actg. Capt.) C. A. Lewis, Lieut. W. W. Smith, Sec. Lieut. E. R. Thom; Jan. 30. Sec. Lieut. A. Anderson, Lieut. (actg. Capt.) R. D. Best (A.S.C., T.F.), Lieut. E. S. Harvey, Sec. Lieut. H. G. Haydon, Sec. Lieut. N. McL. Hill, Sec. Lieut. H. V. Jones, Lieut. G. G. Kell, Sec. Lieut. J. C. Leggett, Sec. Lieut. R. S. Oakley; Jan. 31. Sec. Lieut. H. D. Hayes, Sec. Lieut. (Hon. Lieut.) A. T. Holman, Sec. Lieut. V. E. Jackson, Lieut. F. Kettle, Sec. Lieut. P. H. Lambert, Lieut. N. S. MacGregor, Sec. Lieut. W. D. Melhuish; Feb. 1. Lieut. (actg. Capt.) W. Hubbard, D.F.C., Sec. Lieut. J. A. Lisle, Sec. Lieut. T. G. Murray, Sec. Lieut. G. L. Newman, Capt. A. B. Owens, Lieut. (actg. Capt.) J. J. Paine, Sec. Lieut. (Hon. Lieut.) C. G. K. Pile; Feb. 2. Sec. Lieut. E. Hall; Feb. 3. Lieut. R. W. Hathaway; Feb. 4. Sec. Lieut. R. Morrison, Lieut. M. A. Peacock; Feb. 5. Sec. Lieut. (Hon. Capt.) A. H. Mellows; Feb. 6. Lieut. W. C. Pierce; Feb. 7. Lieut. C. A. Harrison; Feb. 14.

Capt. G. A. Maclean relinquishes his commn. on account of ill-health, and is permitted to retain his rank; Feb. 15.

The following Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—A. L. Code (caused by wounds), C. H. Dunster, H. D. Jack, L. H. C. Rutter (contracted on active service); Feb. 15.

The following Lieuts. relinquish their commns. on account of ill-health:—L. S. Gray (contracted on active service), H. C. Hyde (Leic. R.), R. W. Jackson (Can. Local Forces); Feb. 15.

The following Sec. Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—A. Nicholson, F. L. Roberts (contracted on active service), C. H. Wilcox (contracted on active service); Feb. 15.

Sec. Lieut. G. P. Forbes relinquishes his commn. on account of ill-health; Feb. 15.

The surname of 2644 Flight Cadet A. T. Jeffery is as now described (*Gazette*, Dec. 10, 1918).

The initials of Lieut. W. von S. Pryor are as now described (*Gazette*, Jan. 28).

The surname of Capt. (actg. Maj.) R. Grey is as now described (*Gazette*, Jan. 24).

The Christian name of Sec. Lieut. William Campbell is as now described (*Gazette*, Jan. 24).

Sec. Lieut. S. T. Franks is antedated in his appointment as Sec. Lieut. (A. and S.), with effect from April 15, 1918.

The notification in *Gazette* Dec. 13, 1918, concerning Lieut. E. A. Clegg is cancelled.

Administrative Branch.

Maj. A. R. Woodland to be actg. Lieut.-Col. while employed as Lieut.-Col.; Jan. 20.

The following are granted temp. commns. as Maj., seniority April 1, 1918:—W. J. King, M.C. (Temp. Maj., Rif. Brig.); Aug. 27, 1918. A. R. Woodland (Maj., Shrops. L.I.); Sept. 25, 1918. V. J. Kelly (Temp. Maj., attd. R. Muns. Fus.); Oct. 4, 1918.

The following to be graded for purposes of pay as S.O. 2 (2nd Grade):—Capt. (actg. Maj.) O. C. Johnson; Aug. 22, 1918. Maj. W. J. King, M.C.; Oct. 7, 1918.

The following are granted temp. commns. as Capt., seniority April 1, 1918, and to be actg. Maj. while employed as Maj.:—D. G. F. Darley (Capt., D. Gds.); O. C. Johnson (Temp. Capt., Gen. List); Aug. 22, 1918. W. R. Hoare (Capt., Hants. R., T.F.); Aug. 31, 1918. A. F. Morris (Temp. Capt., Welsh R.); Sept. 7, 1918.

A. W. Barrington-Foot (Capt., Hrs., S.R.) is granted a temp. commn. as Capt., and to be actg. Maj. while employed as Maj.; July 13, 1918.

F. H. Hooper (Lieut., R.F.A., T.F.) is granted a temp. commn. as Lieut., seniority April 2, 1918, and to be actg. Maj. while employed as Maj.; Nov. 7, 1918.

The following are granted temp. commns. as Capt., seniority April 1, 1918:—A. Howe (Capt., R.W. Kent R.); June 6, 1918. C. W. Curd (Temp. Capt., Gen. List); June 24, 1918. G. F. Clayton (Capt., R. W. Surr. R.); Aug. 24, 1918.

R. Goacher (Maj. and Qrmr., Gen. List, T.F.) is granted a temp. commn. as Capt., and to be Hon. Maj.; April 1, 1918.

The following Capt. and Qrmrs. are granted temp. commns. as Capt.: J. Allen (Special List), W. J. Adkins (Gen. List, T.F.), G. A. Brown (Special List), E. Mills (R.W. Kent R.), R. Rennison (Gen. List, T.F.), F. Spearing, D.C.M. (Special List), T. M. Woodward (Gen. List, T.F.); April 1, 1918. A. Warnock (Oxf. and Bucks L.I.); Oct. 8, 1918.

The following are granted temp. commns. as Lieuts., seniority April 1, 1918, and to be actg. Capt. while employed as Capt.:—L. G. Russell (Temp. Lieut., R. Fus.); July 20, 1918. R. G. Norman (Temp. Lieut., Essex R.); Aug. 8, 1918.

Lieuts. to be actg. Capt. while employed as Capt. (substituted for notification in *Gazette*, Jan. 31):—E. A. Comeau; Dec. 6, 1918. R. E. Roberts; Dec. 16, 1918. M. Tarbet; Jan. 20.

Lieuts. to be actg. Capt. while employed as Capt.:—J. P. P. L. Biggs;

July 1, 1918. H. L. McNaughton; July 15, 1918. R. Kane; Sept. 23, 1918. R. Elphick; Oct. 1, 1918. J. E. Rosselli, from (S.O.); Oct. 2, 1918. A. G. W. Grantham; Oct. 29, 1918. R. E. Meek; Nov. 1, 1918.

Sec. Lieut. (actg. Lieut.) S. Tew to be actg. Capt. while employed as Capt.; Jan. 8.

Lieuts. (A.) to be Lieuts.:—K. F. Hilder; Aug. 7, 1918. R. MacC. Marshall; Oct. 19, 1918. G. S. McGregor; Oct. 29, 1918. J. L. Callie; Nov. 19, 1918. A. G. Bailey, D.F.C.; Dec. 6, 1918. (Actg. Capt.) L. D. Brown; Dec. 9, 1918, and relinquishes the actg. rank of Capt.; B. I. Ward; Dec. 10, 1918. W. M. B. Skinner; Dec. 17, 1918. N. F. Spurr; Jan. 1. W. J. McLean; Jan. 7. V. N. Bonnes; Jan. 10. E. E. Stock, M.C.; Jan. 23.

Lieuts. (O.) to be Lieuts.:—B. E. H. Whiteford, M.C.; Nov. 21, 1918. B. S. Andrew; Nov. 23, 1918. B. Instone; Nov. 29, 1918. E. B. Selby; Dec. 18, 1918.

Lieut. J. A. Gorges to be Lieut., from (S.O.); Jan. 29.

Capt. C. D. Smart, M.C., to be graded for purposes of pay as Lieut. whilst employed as Lieut., from (A.); June 3, 1918.

The following are granted temp. commns. as Lieuts., seniority April 1, 1918:—A. G. Horlock (Lieut., E. Kent R.); May 30, 1918. A. G. W. Grantham (Lieut., Dor. R.); July 20, 1918. W. S. H. Reid (Lieut., Dev. R., T.F.); July 21, 1918. F. M. Drako (Temp. Capt., Gen. List); Aug. 12, 1918, and to be Hon. Capt. R. H. M. Park (Lieut., Ir. Gds., S.R.); Aug. 23, 1918. W. J. E. Owen (Temp. Lieut., Gen. List); Aug. 31, 1918. R. D. H. Draper (Temp. Lieut., York. L.I.), P. H. Drury (Lieut., S. Wales Bord.), R. H. Rook, M.C. (Lieut., W. York. R., S.R.); Sept. 7, 1918. W. I. M. Constable (Lieut., R. Sco., T.F.), J. Garvin (Temp. Lieut., Welsh R.); Sept. 14, 1918. C. E. W. Neat (Lieut., R. Ir. Fus., S.R.); Sept. 19, 1918. G. MacMullen (Lieut., Herts R.); Sept. 20, 1918. R. Kane (Hon. Lieut. and Qrmr., R.N.D.); Sept. 23, 1918. F. W. D'Alton, M.C. (Lieut., R.G.A.); Oct. 12, 1918.

The following are granted temp. commns. as Lieuts.:—W. F. Alderton (Asst. Paymr., R.N.R.), H. A. Hannay (Temp. Lieut., S. Wales Bord.), K. S. Hunter (Lieut., D. Gds.), A. C. Illingworth (Temp. Lieut., W. Rid. R., T.F.), C. Verner (Temp. Lieut., Bedf. R.); April 1, 1918. W. A. Waterman (Lieut., Bord. R.); June 25, 1918. A. A. Bowes (Temp. Lieut., attd. Manch. R.); Sept. 13, 1918. E. G. Akhurst (Lieut., Dev. R., T.F.), H. Hemingway (Lieut., Middx. R., S.R.); Sept. 14, 1918. J. W. Upcott (Lieut., Mon. R., T.F.); Sept. 18, 1918. C. B. Stead (Lieut., R.H.A., T.F.); Oct. 1, 1918. F. A. Perren (Lieut., Hants. R.); Oct. 2, 1918.

T. M. Ross (Maj. and Qrmr., R. Sco. Greys) is granted a temp. commn. as Lieut. (April 13, 1918, seniority April 1, 1918), and to be Hon. Maj.

The following Capt. and Qrmrs. are granted temp. commns. as Lieuts., and to be Hon. Capt.:—W. T. Calthorpe (Special List), E. W. Crosbie (Gen. List, T.F.), J. F. Dawson (Special List), A. A. Goodman (Gen. List, T.F.), D. W. Harper (Special List), A. Jamieson (Special List), A. P. Lunam, M.C. (Gen. List), H. F. P. Morris (Gen. List), H. Pallert (Gen. List), F. Pater-son (Special List), J. Roberts (Suff. R.), E. V. Tarrant (Hants R.), S. E. Wall (Special List), J. Wouds, D.C.M. (Special List), B. T. Whittaker (Gen. List); April 1, 1918.

The following Capt. and Qrmrs. are granted temp. commns. as Lieuts., with seniority April 1, 1918, and to be Hon. Capt.:—W. H. Soper (Special List); April 3, 1918. G. Howard (Gen. List); June 6, 1918. S. Snow, M.C. (Gen. List); July 1, 1918. F. G. Davies, M.C. (Gen. List); Sept. 11, 1918.

The following Lieuts. and Qrmrs. are granted temp. commns. as Lieuts.:—H. J. Axten (Gen. List), J. F. Battersby (Special List), A. J. Barber (Special List), M. D. Cunningham (Special List), J. Connell (Special List), W. Clay (Gen. List), G. Davidson (Gen. List), C. F. Gear (Special List), W. A. Grudg-ings (Special List), H. Higgins (Special List), J. W. Holdsworth (Special List), J. Hill (Special List), G. H. Hill (Gen. List), W. J. Jones (Gen. List), S. Lindsey (Special List), A. Lucking (Special List), C. F. Morris (Special List), A. Mitchell (Special List), P. J. Murphy (Special List), H. T. Nance (Special List), H. H. Spencer (Special List), J. Saunders (Special List), E. G. Steer (Special List), P. Valette (W. York. R.), W. White (Special List), G. Wilson (Special List), A. C. W. Williams (Special List); April 1, 1918. G. E. Tarrant (Special List); April 4, 1918, seniority April 1, 1918. W. C. Alexander (T.F. Res.); Sept. 13, 1918, seniority April 1, 1918.

Sec. Lieut. (Hon. Lieut.) J. Cobley to be Lieut.; April 2, 1918.

Sec. Lieuts. to be actg. Lieuts. while employed as Lieuts.:—E. Staples; Aug. 19, 1918. (Hon. Lieut.) F. E. Gauntlett, from (O.); Aug. 24, 1918 (substituted for notification in *Gazette*, Oct. 15, 1918). L. P. Kirk; Dec. 1, 1918.

The following are granted temporary commissions as Sec. Lieuts., with seniority from April 1, 1918, and to be actg. Lieuts. whilst employed as Lieuts.: A. V. Hastings (Sec. Lieut., R. Dub. Fus.); July 7, 1918. G. Hull (Temp. Sec. Lieut., R. Ir. Rif.); July 12, 1918. L. M. King-Harman (Sec. Lieut., Rif. Bde.); July 23, 1918. P. Hammond (Temp. Sec. Lieut., N. Staffs. R.); Aug. 8, 1918. H. G. Lyne (Sec. Lieut., Linc. R.); Aug. 27, 1918. C. G. Campbell (2nd Linc. R., T.F.); Sept. 7, 1918. E. W. Jackson (Temp. Sec. Lieut., R. Dub. Fus.), W. A. Renshaw (Temp. Sec. Lieut., North'd Fus.), W. Twamley (Temp. Sec. Lieut., R. Dub. Fus.), A. D. Turner (Temp. Sec. Lieut., Manch. R.); Sept. 14, 1918. R. Wright (Sec. Lieut., R. Sco., T.F.); Sept. 18, 1918. C. F. Beeson (Temp. Sec. Lieut., Oxf. and Bucks L.I.), F. Ridley (Temp. Sec. Lieut., Ches. R.); Sept. 19, 1918. A. Elliott (Sec. Lieut., R. Lan. R., T.F.); Oct. 15, 1918.

Sec. Lieuts. to be Sec. Lieuts., from (A.):—W. Comb; Sept. 2, 1918. C. D. Davis; Sept. 23, 1918. H. Mackay; Oct. 28, 1918. H. F. Walker; Dec. 6, 1918. J. Skinner; Dec. 20, 1918. P. A. Miller; Jan. 5. C. P. Bertoli; Jan. 15.

Sec. Lieut. P. A. Katte to be Sec. Lieut., from (A. and S.); Dec. 16, 1918.

Sec. Lieut. G. C. Shakespeare to be Sec. Lieut., from (K.B.); Jan. 10.

Sec. Lieuts. to be Sec. Lieuts., from (O.):—T. K. Ludgate; Nov. 11, 1918. J. M. Scott; Nov. 25, 1918. C. F. Ambler; Dec. 3, 1918.

The following Sec. Lieuts. (late Gen. List, R.F.C., on prob.) are confirmed in their rank as Sec. Lieuts.:—T. Whittaker; Aug. 8, 1918. W. J. H. Gallard; Nov. 9, 1918.

R. P. Briscoe (Temp. Sec. Lieut., Worc. R.) is granted temp. commn. as Sec. Lieut.; June 26, 1918, with seniority from April 1, 1918.

Prob. Flight Officer H. West (late R.N.A.S.) is granted temp. commn. as Sec. Lieut.; Sept. 23, 1918.

The following Sec. Lieuts. are removed from the Service, his Majesty having no further use of their services as officers:—S. Laban; Nov. 7, 1918. W. Chester; Dec. 2, 1918.

The following relinquish their commns. on ceasing to be employed:—Capt. J. Crow (Qrmr. and Hon. Capt., Gen. List, T.F.); Nov. 28, 1918.

Capt. P. J. Whitty (Capt., R. Ir. R.); Jan. 17.

The following are transf'd to Unemployed List:—Capt. T. C. Macaulay; Jan. 5. Lieut. H. H. Coffin; Jan. 20. Sec. Lieut. W. E. McCulloch; Jan. 21. Sec. Lieut. J. McP. Mitchell; Jan. 22. Lieut. (actg. Capt.) J. S. Anderson, Sec. Lieut. W. Brickhill, Lieut. (Hon. Capt.) (actg. Maj.) R. C. Green; Jan. 23. Sec. Lieut. F. W. Heazell, Sec. Lieut. G. C. Tozer; Jan. 25. Sec. Lieut. H. G. Bishop, Sec. Lieut. J. I. C. Boger, Sec. Lieut. C. G. Bray; Jan. 26. Sec. Lieut. A. H. Burn; Jan. 27. Sec. Lieut. S. C. Bown, Sec. Lieut. C. W. Brown, Sec. Lieut. A. Brownhill, Sec. Lieut. R. W. Callan, Sec. Lieut. L. Hamblin; Jan. 28. Sec. Lieut. W. E. Back, Sec. Lieut. D. Dawson, Sec. Lieut. (actg. Lieut.) W. J. Dayrel-Steyning, Sec. Lieut. L. Garerd-Hill, Sec. Lieut. F. S. Heywood; Jan. 29. Lieut. W. G. Gunning;

Sec. Lieut. (actg. Lieut.) A. J. E. Sumner; Jan. 30. Sec. Lieut. W. A. R. Heaven, Lieut. G. Mawer; Jan. 31. Lieut. F. C. Meyer, Sec. Lieut. G. H. Nutter; Feb. 1. Sec. Lieut. J. T. Histed, Lieut. (actg. Capt.) W. F. Merritt, Sec. Lieut. W. Odam; Feb. 2. Lieut. A. E. C. Marshall; Feb. 4. Lieut. J. D. Newson relinquishes his commn. on account of ill-health contracted on active service, and is permitted to retain his rank; Feb. 15. The following Sec. Lieuts. relinquish their commns. on account of ill-health, and are permitted to retain their rank:—A. W. Kelly, A. H. Mitchener, J. R. Wilcox (contracted on active service); Feb. 15. The Christian name of Sec. Lieut. William Cox is as now described (*Gazette*, Jan. 24).

Technical Branch.

Capt. H. J. C. Smith to be actg. Maj. whilst employed as Maj. (Grade A); Oct. 25, 1918 (substituted for notification in *Gazette*, Dec. 31, 1918). Lieut. (actg. Capt.) H. W. Prockter retains the actg. rank of Capt. whilst employed as Capt. (Grade A.), from (Ad.); Dec. 17, 1918. Lieuts. to be actg. Capt. whilst employed as Capt. (Grade A.):—J. H. Winch; April 11, 1918. T. M. Howard; Aug. 14, 1918. H. F. Wilkinson; Sept. 1, 1918. B. O. Newman; Nov. 1, 1918. Sec. Lieut. (actg. Lieut.) L. B. Clarkson to be actg. Capt. whilst employed as Capt. (Grade A.) from (Ad.); Oct. 1, 1918. Lieuts. to be actg. Capt. whilst employed as Capt. (Grade B.):—A. L. C. Fuller; Oct. 17, 1918. B. F. Wood; Nov. 1, 1918. P. M. T. Hill; Dec. 1, 1918.

Sec. Lieuts. to be actg. Capt. whilst employed as Capt. (Grade B.):—(Actg. Lieut.) W. A. Winter, H. H. Williams; Dec. 6, 1918. The following are granted temp. commns. as Lieuts., and to be actg. Capt. whilst employed as Capt. (Grade A.):—J. Shields (Lieut., R.F.A., T.F.); April 22, 1918. F. E. H. Paget (Lieut., Gren. Gds.); April 29, 1918. The following Lieuts. to be graded for purposes of pay as Lieuts. (Grade A.):—G. W. Charley; Aug. 9, 1918. H. C. Short, A. Wragg; Dec. 13, 1918. Lieut. T. E. A. Griffith to be Lieut. (Grade B.) from (A.); Nov. 5, 1918.

The following are granted temporary commissions as Lieuts. (Grade A.), with seniority from April 1, 1918:—E. Gallagher (Temp. Lieut., R. Innis. Fus.), H. V. Manly (Lieut., R. Dub. Fus.); July 11, 1918. H. A. Moncrieff (Lieut., Dor. R.); Aug. 30, 1918.

W. G. Seager (Temp. Lieut., New Armies) is granted a temp. commn. as Lieut. (Grade B.); Sept. 18, 1918, with seniority from April 1, 1918.

Sec. Lieuts. to be actg. Lieuts. whilst employed as Lieuts. (Grade A.):—E. J. Cox, W. J. Ley (substituted for notification in the *Gazette*, Dec. 31, 1918); Oct. 1, 1918. Hon. Lieut. R. E. A. Mallet, M.C.; Nov. 1, 1918. A. E. Gooch; Dec. 1, 1918.

G. W. Cooke (Sec. Lieut., Middx. R.) is granted a temp. commn. as Sec. Lieut., and to be actg. Lieut. whilst employed as Lieut. (Grade A.); July 11, 1918.

Sec. Lieuts. to be Sec. Lieuts. (Grade A.) from (Ad.):—J. T. Histed; Oct. 13, 1918. W. Littlemore, N. W. Lamb; Nov. 28, 1918. (Actg. Capt.) M. Sheriff, D.C.M., and to relinquish the actg. rank of Capt.; D. A. Batwell; Dec. 1, 1918. C. Jones; Dec. 19, 1918.

Sec. Lieuts. to be Sec. Lieuts. (Grade B.) from (Ad.):—A. P. Mannings; Sept. 5, 1918. P. H. C. Martin; Sept. 12, 1918. F. P. Ward; Nov. 28, 1918.

The following are granted temp. commns. as Sec. Lieuts. (Grade B.):—H. Soper (Temp. Lieut., R. Fus.), and to be Hon. Lieut.; April 1, 1918. G. R. Willis (Temp. Sec. Lieut., S. Lan. R.); July 3, 1918, seniority April 1, 1918.

Sec. Lieut. C. C. Parrott, D.C.M. (late Gen. List, R.F.C., on prob.), is confirmed in his rank as Sec. Lieut. (Grade B.); July 18, 1918.

Sec. Lieut. (Hon. Capt.) G. H. Lounsbury (Capt., New Brun. R.) relinquishes his commn. on ceasing to be employed; Dec. 31, 1918.

The following are transf'd. to Unemployed List:—Sec. Lieut. (actg. Lieut.) W. L. Vining (substituted for notification in *Gazette* Jan. 24. Sec. Lieut. (Hon. Lieut.) J. Robertson; Jan. 18 (substituted for notification in *Gazette*, Feb. 4); Jan. 9. Lieut. A. A. MacConnell; Jan. 19. Capt. A. D. Bateman, Sec. Lieut. A. G. Clayton; Jan. 20. Sec. Lieut. (Hon. Lieut.) L. C. Atwood, Capt. R. Cadman, Capt. N. F. Stockbridge; Jan. 21. Sec. Lieut. A. J. Christie, Sec. Lieut. C. M. S. Churchill, Sec. Lieut. C. W. Clare, Lieut. A. L. Thomas; Jan. 22. Maj. G. H. Gordon, Sec. Lieut. (actg. Lieut.) H. Hanson, Sec. Lieut. D. P. McN. Laing; Jan. 23. Sec. Lieut. A. Cornall-Tolley; Lieut. W. T. H. Hawkins; Jan. 24. Sec. Lieut. W. E. Norton; Jan. 25. Lieut. W. S. Pattinson; Jan. 26. Lieut. H. C. Nelson; Jan. 27. Capt. D. A. H. Legard, Sec. Lieut. (Hon. Lieut.) (actg. Lieut.) L. J. C. Lord; Jan. 28. Sec. Lieut. W. A. Frame, Lieut. C. A. Lunghi; Jan. 29. Capt. G. D. Meynell; Jan. 30. Sec. Lieut. L. Palgrave, Lieut. J. H. B. Porter; Feb. 1. Lieut. H. C. Newton; Feb. 2. Lieut. D. Parker, Capt. H. W. Plews; Feb. 3. Lieut. K. Messervy; Feb. 4. Sec. Lieut. H. G. Hawkes; Feb. 5. Lieut. A. S. Donaldson relinquishes his commn. on account of ill-health; Feb. 15.

Sec. Lieut. J. A. Smith relinquishes his commn. on account of ill-health contracted on active service, and is permitted to retain his rank; Feb. 15.

Physical Training Branch.

Lieuts. to be actg. Capt. while employed as Capt.:—K. S. Hunter, from (Ad.); June 1, 1918. G. L. Moss, from (O.); Aug. 26, 1918.

Sec. Lieut. P. W. Smith to be actg. Capt. while employed as Capt., from (A.); Feb. 1.

J. Butterfield (Temp. Lieut., attd. L'pool R.) is granted a temp. commn. as Lieut., seniority from April 1, 1918, and to be actg. Capt. while employed as Capt.; Aug. 10, 1918.

S. D. Harrower (Sec. Lieut., Bedf. R.) is granted a temp. commn. as Sec. Lieut., and to be actg. Capt. while employed as Capt.; Sept. 27, 1918.

G. H. Price (Sec. Lieut., Middx. R., T.F.) is granted a temp. commn. as Sec. Lieut., seniority from April 1, 1918, and to be actg. Lieut. while employed as Lieut.; July 16, 1918.

Medical Branch.

A. S. Glynn, M.B. (Temp. Capt., R.A.M.C.), is granted a temp. commn. as Capt.; Nov. 3, 1918, seniority from April 1, 1918.

G. McK. Thomas is granted a temp. commn. as Lieut.; Feb. 12. Capt. A. E. McCulloch is transf'd. to Unemployed List; Jan. 19.

Capt. L. G. Davies relinquishes his commn. on account of ill-health, and is permitted to retain his rank; Feb. 15.

Dental Branch.

Lieut. H. Wardill to be Lieut., from (A.); July 23, 1918.

Memoranda.

Sec. Lieut. (Hon. Capt.) W. A. Moore to be actg. Maj. while specially employed; Oct. 17, 1918.

Lieut. J. F. Shaw is granted the hon. rank of Capt.; Dec. 18, 1918.

Sec. Lieut. T. MacD. Kellough to take rank and prec. as if his appointment as Sec. Lieut. bore date Dec. 4, 1918.

Sec. Lieut. A. E. Cheal relinquishes his commn. on ceasing to be employed; Aug. 27, 1918.

The following are transf'd. to Unemployed List, from (S.O.):—Sec. Lieut. (actg. Lieut.) G. F. Allison; Jan. 21. Maj. (actg. Lieut.-Col.) H. A. Browne; Feb. 1. Maj. J. K. Curwen Feb. 5. Lieut.-Col. (actg. Brig.-Genl.) G. Livingston, C.M.G.; Feb. 14.

Lieut.-Col. (actg. Brig.-Genl.) F. C. Jenkins, C.B.E.; Feb. 15, and is granted the hon. rank of Brig.-Genl.

Capt. P. A. Denny (Arg. and Suth'd Highrs.) relinquishes his commn. on account of ill-health; Feb. 15.

Royal Flying Corps (Military Wing).

London Gazette Supplement, Jan. 20.

Flying Officers.—Temp. Sec. Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—J. L. Hill; March 7, 1918. W. H. Gibson; March 30, 1918.

London Gazette Supplement, Jan. 22.

Flying Officer.—Temp. Sec. Lieut. (on prob.) W. A. Stead, Gen. List, and to be confirmed in his rank; March 13, 1918.

Equipment Officer, 3rd Class.—Temp. Lieut. H. R. Sterrett, Serv. Bn., F. Kent R., and to be transf'd. to R.F.C., Gen. List; March 1, 1918.

London Gazette Supplement, Jan. 25.

Flying Officer.—Temp. Sec. Lieut. (on prob.) R. J. Woods (Gen. List) and to be confirmed in his rank; March 28, 1918.

Flying Officer (Observer).—Temp. Lieut. A. Rowan (K.R.R.C.), and to be transf'd. to R.F.C., Gen. List; Jan. 3, 1918.

London Gazette Supplement, January 28.

Flying Officer.—Temp. Sec. Lieut. (on prob.) L. L. Saunders, Gen. List, and to be confirmed in his rank; March 23, 1918.

General List.—The appointment of Temp. Sec. Lieut. R. C. Ryan is ante-dated to March 22, 1918.

London Gazette Supplement, January 30.

Flying Officer.—The appointment of Temp. Sec. Lieut. E. T. Rogers, North'd. Fus., notified in *Gazette* Aug. 17, 1918, is cancelled.

London Gazette Supplement, January 31.

Flying Officer.—Temp. Sec. Lieut. (on prob.) D. B. Sinclair, Gen. List, and to be confirmed in his rank; March 20, 1918.

London Gazette Supplement, February 3.

Flying Officers.—Temp. Sec. Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—H. W. Allen; March 9, 1918. T. Usher; March 12, 1918.

Equipment Officers, 3rd Class.—Temp. Sec. Lieut. W. H. Brown, R.A.S.C., and to be transf'd. to the R.F.C., Gen. List; Jan. 1, 1918.

The appointment of Temp. Lieut. W. H. Brown, R.A.S.C., notified in *Gazette*, Jan. 28, 1918, to be cancelled.

London Gazette Supplement, February 7.

Flight Commander.—Temp. Sec. Lieut. W. D. Patrick, Gen. List, from a Flying Officer, and to be Temp. Capt. while so employed; Jan. 4, 1918.

Assistant Instructor in Gunnery.—Graded as an Equipment Officer, 2nd Class.—Temp. Lieut. C. M. Pletts, Gen. List, from graded as an Equipment Officer, 3rd Class; Dec. 18, 1917.

London Gazette Supplement, February 13.

Equipment Officer, 3rd Class.—Capt. R. Alston, 5th R. W. Kent R., T.F.; March 29, 1918.

London Gazette Supplement, February 15.

Flying Officers (Observers).—Lieut. A. H. E. Lindop, M.C., Ind. Army. Res. of Officers; Nov. 30, 1917. Lieut. A. S. Mills, 2nd Lovat's Scouts Vco., T.F., and to be sec'd.; Jan. 17, 1918 (with seniority from Nov. 16, 1917).

Adjutant.—Temp. Sec. Lieut. A. S. Thompson, Gen. List, from a Flying Officer, and to be Temp. Capt. (with pay and allowances of Lieut.) whilst so employed; Oct. 8, 1917.

Mr. Cecil M. Hill Killed

ACCORDING to a brief cable message from the Hon. H. F. Wigram, Chairman of the Canterbury (N.Z.) Aviation Co., Ltd., Mr. Cecil M. Hill was killed while flying on February 1. Mr. Hill will be remembered as one of the instructors at the Hall Flying School at Hendon before he went to New Zealand in May, 1917, where he has trained over one hundred pilots.

Newspaper Air Services in Germany

The *Berliner Zeitung am Mittag* claims to be the first newspaper to employ an air service for newspaper distribution. It will send its issues to Leipzig and Weimar, thus enabling the newspapers to be distributed at the subscribers' houses at an unusually early hour.

It is also announced that the firm of Ullstein has decided to supply the National Assembly at Weimar with a regular service of newspapers. It has chartered a number of aeroplanes, the first of which left on the 5th inst. Others left on the following days with the morning edition of the *Vossische Zeitung*.

Flying in Scandinavia

INFORMATION received from the *Morning Post* correspondent at Stockholm goes to show that German interests are actively engaged in trying to secure control of flying in Scandinavia. The latest move of German financiers is to endeavour to acquire the Thulin factory at Landskrona, the largest of its kind in Scandinavia. The Swedish papers appeal to the Government to take prompt legislative measures to prevent Swedish trade being managed by foreigners.

The Chevrons Club

AT a meeting of delegates representative of the Navy, Marines, Army and Air Force, recently held at the Chevrons Club, it was unanimously agreed that the Club should become a permanent war memorial to the petty officers and non-commissioned officers of the Services.

It was pointed out that the Club at 74, St. George's Square is only the pioneer, and the committee is appealing for funds to enable them to open branches in the principal Naval, Military and Air centres.

SIDE-WINDS

WE learn that the new Morris-London car, of which Mr. F. E. Morris of 54-55, Piccadilly, is the sole manufacturer, will be fitted with a unique wind-screen of an entirely new and original design fitted with Triplex safety glass. In this connection we may say that the Dreadnought Motor policies at Lloyd's, the North and South Insurance Corporation and the British Oak Insurance Co., are making substantial concessions on policies issued in respect of cars fitted with "Triplex."

INCLUDED in the large number of employees of Messrs. C. A. Vandervell and Co. who have now returned to the firm to take up their old jobs is Lieut. Ernest Leighton of the R.A.F., who joined the Army in 1914. Lieut. Leighton takes up his old position as Manager of the Installation Department.

AMONGST the many devices which have been put forward for locking nuts one which has been steadily adding to its reputation is the "Fastnut." It is such a simple idea, and it saves the use of check nuts, cottar and split pins. Messrs. Brown Brothers, of 20 to 34, Great Eastern Street, E.C. 2, have now taken up the sole agency for the motor trade, and will be pleased to quote for any quantity and any size. For those who might wish to give the device a practical trial they are offering a special "Companion" box containing two or three dozen assorted sizes, the larger box only costing half-a-crown. It is stated that one motor firm alone uses over 150,000 "Fastnuts" per month.

FROM Mr. S. T. G. Andrews, B.Sc., who is responsible for the "Thorough" Correspondence Classes, comes a programme of a series of courses in mathematics. Altogether some 18 courses are outlined, ranging from elementary lessons to very advanced studies, and draughtsmen and engineers should have no difficulty in finding a selection sufficient for their requirements. In each case Mr. Andrews has sought the assistance of specialists, and has striven to make the subject-matter of each lesson as attractive as possible, and

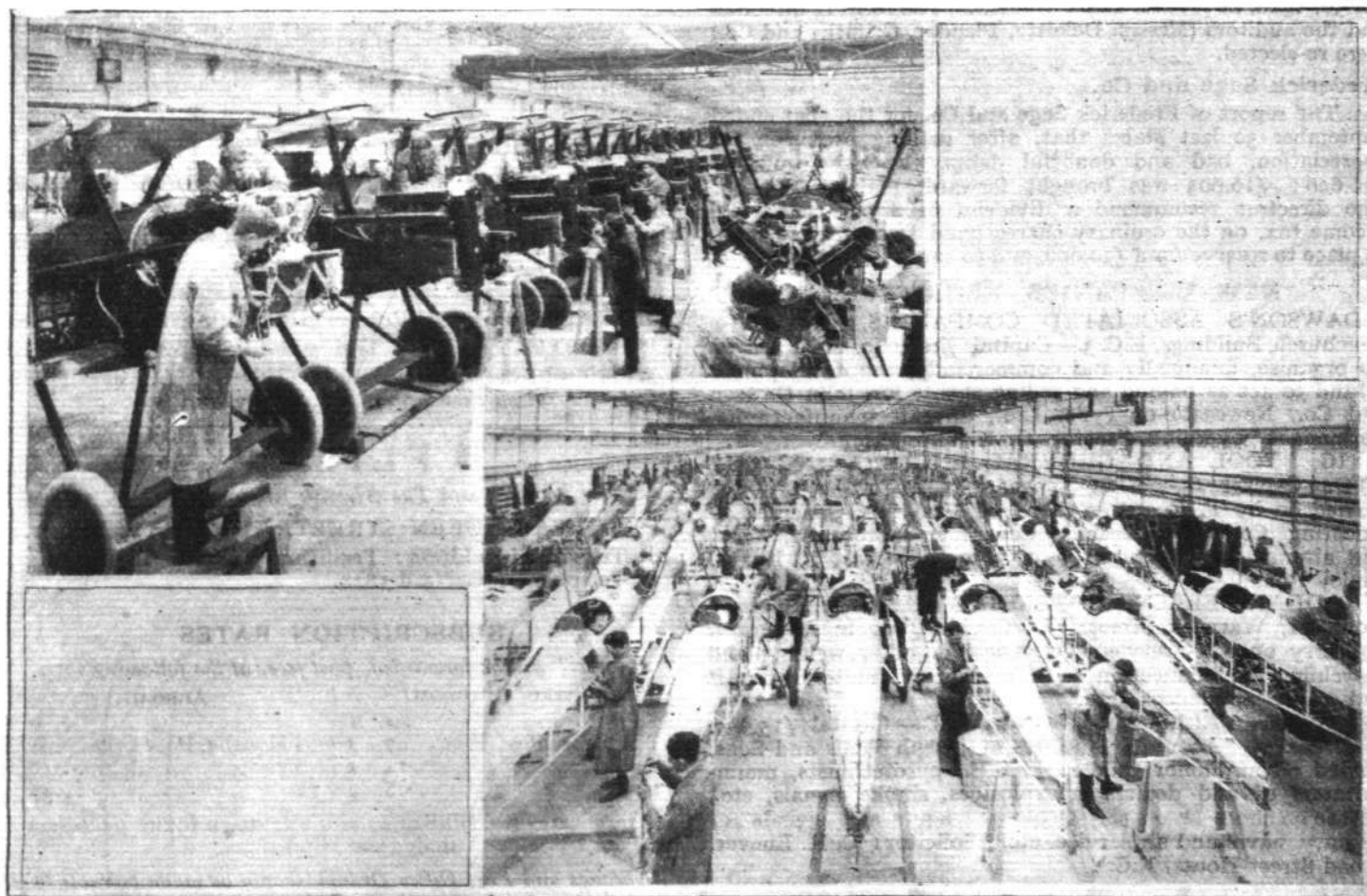
to lead the student on in natural and progressive sequence. Mr. Andrews will be pleased to send a copy of the above booklet to anyone interested if they apply to him at 80, Shakespeare Crescent, E. 12.

REFERENCE was made in "FLIGHT" last week to the De H. 4's turned out by Palladium Autocars, Ltd., and a photograph on the next page shows one of these machines—mounted on a 4-ton Palladium lorry, another product of the firm which has made good in the War—on its way to an R.A.F. acceptance park. It is some of these machines which have been fitted with saloon bodies, heated and lighted by electricity, which are used for the Paris-London service in connection with the Peace Conference.

WITH regard to the light car which Palladium Autocars, Ltd., are bringing out, it is stated that the chassis is suitable for a fast sporting two-seater, and with slight modifications in springing and gearing can carry a four-seated body or be used as a 5 cwt. tradesman's van. Arrangements are being made to go to production on a large scale with a view to progressive cheapening of the vehicle. It is intended that the chassis shall not exceed £145 fitted with four tyres and standard equipment. The standard two-seater will be listed about £185, the four-seater £195, and the 5 cwt. tradesman's van £190.

MR. W. C. BARKER (Ipswich), who represents the East London Rubber Co. for the Eastern Counties, and Mr. Claude J. E. Ford (Rugby), who represents them for the South Midlands, have both resumed their journeys, and will be calling upon their customers in regard to after-War business.

As an indication of the growth of the British magneto industry, the M.L. Magneto Syndicate, Ltd., of Coventry, were building eight magnetos per week in October, 1914. In October, 1918, their output had increased to 800 magnetos per week.



A couple of the aeroplane-building departments of Wolseley Motors, Ltd., illustration of which has hitherto been restricted under Dora. One of these shows an erecting shop with a batch of S.E. 5's in course of construction, whilst in the other the S.E. 5's are being fitted with Wolseley "Viper" engines. It hardly needs emphasising that the Wolseley company supplied a very large number of these machines during the War, and the work of these little single-seater fighting planes, fitted with a Vickers gun in the fuselage and a Lewis gun in the top plane, was very remarkable, and had an appreciable effect upon the final collapse of the enemy.



A.D.H. 4, one of those constructed by Palladium Autocars, Ltd., of Putney, en route for delivery. Certain of these D.H. 4's by the Palladium Co. are being used in the Peace Conference journeys between Paris and London for conveying Ministers and despatches.

COMPANY MATTERS

Mann, Egerton and Co., Ltd.

THE fifteenth annual general meeting of this company was held at Norwich on February 1, to receive the directors' report and accounts for the twelve months ending September 30, 1918. The profit earned for the year was £55,670 16s. 7d., which, with £10,744 8s. 4d. brought forward from the previous year, provided a sum of £66,415 4s. 11d., which was dealt with as follows:—In paying the fixed dividend of 7 per cent. on the preference shares, absorbing £5,267 12s. 8d., and a dividend of 20 per cent. on the ordinary shares, absorbing £5,811 9s. 4d.; in transferring to reserve £12,000, and in writing off the balance of the goodwill account, namely £5,000. After making these appropriations there remained a balance of £38,336 2s. 11d. to be carried forward to the current financial year, subject to a deduction in respect of the liability to excess profits duty for the year to September 30, 1918, at present unascertained. The retiring directors and the auditors (Messrs. Deloitte, Plender, Griffiths and Co.) were re-elected.

Frederick Sage and Co.

THE report of Frederick Sage and Co. for the year ended September 30 last states that, after making provision for depreciation, bad and doubtful debts, the net profit is £36,606; £16,603 was brought forward, making £53,209. The directors recommend a dividend of 8 per cent., less income tax, on the ordinary shares (paid December 17 last), to place to reserve fund £20,000, and to carry forward £16,630.

NEW COMPANIES REGISTERED

DAWSON'S ASSOCIATED COMPANIES, LTD., 10, Fenchurch Buildings, E.C. 3.—Capital £100,000, in £1 shares. To organise, financially and commercially, the development of, and to act as buying and selling agents for, John Dawson and Co., Newcastle-on-Tyne, Ltd., aircraft manufacturers. Permanent governing director, G. H. Humphrey.

JIG, TOOL AND GENERAL ENGINEERING CO., LTD.—Capital £5,000, in £1 shares. Acquiring business carried on by T. Evans as the "Jig, Tool and General Engineering Co." at Foleshill, Coventry; motor car, boat and aircraft manufacturers, etc. First director, T. Evans. Binley Road.

RADI-ARC ELECTRIC WELDING CO., LTD., Regency House, 1, Warwick Street, W.—Capital £200, in 1s. shares. To carry on oxy-acetylene, electrical or other welding and re-welding, in connection with machinery, motor, aircraft and other appliances, etc.

JOSEPH WELLS AND SONS, LTD.—Capital £15,000, in £1 shares. Acquiring business of Joseph Wells and Sons, carried on at Honor Oak Park, S.E., pyrotechnists, manufacturers of and dealers in explosives, smoke signals, etc., for use on shore or on ships, coloured lights and signals for military, naval and air service, etc. Solicitor: C. R. Enever, Broad Street House, E.C.

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"Auto." Editorial Staff

THERE is an opening for a good, live motor journalist with technical knowledge, on the Editorial staff of AUTO., sister journal to *Flight*. Communication should be made, in confidence, to the Editor, the Auto, at 36, Great Queen Street, Kingsway, W.C. 2.

PUBLICATIONS RECEIVED

The New Hazell Annual and Almanack, 1919. By T. A. Ingram, M.A., LL.D. London: Henry Frowde and Hodder and Stoughton. Price 6s. net.

Memorandum on the Industrial Situation After the War. The Garton Foundation. London: Harrison and Sons, St. Martin's Lane, W.C. 2. Price 2s. net.

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Aeronautical Patents Published

Abbreviations:—cyl. = cylinder; I.C. = internal combustion; m. = motors.

APPLIED FOR IN 1917

The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

Published February 20, 1919

755. J. DE LESSEPS and R. COURTOIS-SUFFIT. Apparatus for indicating straightness or curvature of the course of aircraft. (122,426.)

APPLIED FOR IN 1918

The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

Published February 20, 1919

1,223. REGENT CARRIAGE CO. and J. BOCA. Saddlers, etc. (122,458.)

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Index and Title Page for Vol. X.

The 8-page Index for Vol. X of "FLIGHT" (January to December, 1918) is now ready, and can be obtained from the Publishers, 36, Great Queen Street, Kingsway, W.C. 2. Price 8d. per copy, post free.

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